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Original Communications.

ARTICLE I.—*Clinical Lectures on Diseases of the Ear.* By E. L. HOLMES, M.D., Chicago.

THE MIDDLE EAR AND ITS DISEASES.

Gentlemen:

It will not be unprofitable to review briefly the remarks I have made from time to time, as patients with diseases of the tympanum have come to the clinic for treatment; for these diseases are very common, and should engage your serious attention.

You have studied the principal affections of the external meatus. Diseases of the labyrinth, which are relatively quite rare, and unfortunately seldom curable, have also fallen under your observation.

What you have already investigated at this clinic, is sufficient, I think, to correct the opinion which you may have had, and which I think is generally held by practitioners, that the classification of aural diseases is very arbitrary and unsatisfactory. You must now admit, I trust, that the classification is strictly founded on an anatomical, physiological basis, and easily comprehended by any one acquainted with the anatomy of the ear.

The middle ear, or tympanum, is an extremely irregular cavity—a continuation, as it were, of the external meatus, surrounded on almost every side by bone. Its average length is about six and a half lines; its height varies in different portions from three and a half to seven and a half lines. The distance from the membrana tympani to the bony wall opposite to it, varies from one to two lines.

The external lateral wall is the membrana tympani—the internal lateral wall is the bony covering of the labyrinth. The roof of this cavity, over which lies the brain, is a thin septum of bone, through which are several minute openings for the passage of vessels.

The floor of the tympanum is also in some portions a thin septum separating it from the jugular vein. This septum, as also the roof, is sometimes in places destitute of bone, as if ossification had been incomplete.

The posterior wall separates the tympanum from the mastoid cells. In the upper part of this wall is the passage to these cells.

The upper portion of the anterior wall contains the mouth of the Eustachian tube.

The inner lateral wall is an important portion of the tympanum. In it are situated posteriorly the foramina ovale and rotundum—the former opening into the vestibule, the latter opening into the cochlea. Anterior to these, and nearly opposite the centre of the membrana tympani, is the promontory—an elevation produced by one of the coils of the cochlea. In front of this promontory is the portion of the wall covering the carotid artery.

There are two exceedingly minute muscles in the middle ear—one attached to the stapes, and called the stapedius; the other attached to the handle of the malleus, called the tensor membranæ tympani.

These muscles are believed to control, to a certain extent, the tension of the membrana tympani, and to modify the degree with which the stapes presses upon the fluid of the labyrinth.

Never forget the character of the tissues surrounding this small cavity. Calling to mind the patients who have come here with long-continued purulent discharge from the ears, and with destruction of the membrana tympani, you must have often asked yourselves how such severe disease, so very near vital organs,

could continue so long and violent without fatal results. It is well known that purulent discharge from the ear may result in death. For this reason you should never permit a case with obscure cerebral symptoms to be under your care without a careful examination of the ears. This should be impressed on your minds the more earnestly, because you will be in danger of overlooking it; for in proportion to the number of cases of otorrhœa, we must confess that fatal cases are quite rare.

To comprehend why diseases of the middle ear so often impair hearing, you need but recur to the delicate mechanism of the minute chain of bones extending across the middle ear, and of the membrane of the foramen rotundum.

Remember that these structures, so wonderfully connected, are made to vibrate by the waves of sound—that by them the fluid in the labyrinth is set in motion, which is communicated to the microscopic fibres of the auditory nerve, producing the sensation we call sound.

In the ear, as in all other organs, inflammation is the most frequent source of injury. If the products of inflammation, mucus or pus, collect in the middle ear; if the mucous membrane covering the membrana tympani, the membrane of the foramen rotundum or the ossicles, becomes œdematous, or indurated, as the result of inflammation, this apparatus can no longer vibrate so sensitively as in the normal condition.

Even when the quantity of air in the middle ear is diminished by obstruction of the Eustachian tube, the vibratory motion of the membrana tympani is impeded by the external atmosphere crowding unduly upon it. Hence, as you are aware, the manner in which disease of the tympanum, in its various forms, impairs hearing, is almost invariably by impairing motion of the mechanism above described.

The simplest classification of the diseases of the middle ear is perhaps the following: Acute—chronic catarrh; Acute—chronic purulent otitis; which we will consider at another time.

ARTICLE II.—LECTURE 3D—*Neuralgia.* By WALTER HAY, M.D., Assistant to Chair of Practical Medicine, and Lecturer on Diseases of Brain and Nervous System, Rush Medical College.

(Continued.)

GENTLEMEN: In my last lecture I gave you the outlines of the various forms and phases of peripheral neuralgia. I will now describe to you some of the most important forms of visceral neuralgia. Of these, that which you will most frequently meet in the course of your practice, has its location in the uterus and ovaries; indeed I may say, that these largely preponderate numerically over all other forms of this class.

This is undoubtedly due to the frequent and extreme changes which the nervous apparatus of these organs must sustain, in their passage from the highest state of physiological activity to that of complete quiescence; to the extent and complexity of this nervous mechanism; to the intimate correlation of the sexual apparatus with, not only the bodily, but with the mental functions as well; and to the remarkable susceptibility to disturbance in their functions and their anatomical condition with which these organs are endowed. Of uterine and ovarian neuralgias, one of the most common forms is that which attends menstruation, and this more especially in young subjects. It is not to be confounded with what is commonly called dysmennorrhœa, or obstructed menstruation, although the pain in this case is sometimes truly neuralgic. It will often be found to continue after the escape of the menstrual blood has been effected, and often too, indeed most frequently, when this has been quite free from the beginning, when there has been no dysmennorrhœa; indeed, some of the worst cases are those which accompany an excessive menstrual flow—mennorrhagia. The neuralgic pain seems to be independent of the flow, and to be an expression of some intrinsic quality of instability or excessive irritability in the uterine nerves or their centres. Some of these cases are indentical, pathologically, with some of the forms of trigeminal neuralgia described in my last lecture, having for their ultimate factor vaso-motor paralysis, and consequent engorgement of the ovarian vessels, and pressure upon sensory nerve fibres.

Uterine and ovarian neuralgias, (I speak of them jointly, for they are practically almost inseparable, and indistinguishable,) are not always, however, the result of direct uterine irritability, but frequently are reflex in their character, and occasioned by sources of irritation more or less remote, such as the presence of ascarides in the rectum, calculus in the bladder or in the pelvis of the kidney, tumors in the uterus or its appendages, ulceration of the neck of the uterus. It is said to have been caused by a carious tooth.

I have recently had under my own care, a case of intense uterine neuralgia, which could be attributed to no probable origin, the organ and its appendages being, and having always been, in a perfectly healthy condition.

Neuralgia of the urethra is mentioned by some authors; it is very rare. Neuralgia of the rectum sometimes occurs. In the testicle it is not uncommon. I have a patient who is subject to occasional attacks.

Occurring in the kidney or the liver, as asserted by some writers, the diagnosis is difficult—I should think, indeed, impossible. The cases reported are rare, and may, I think, be assigned to inflammation or mechanical irritation of these organs respectively.

One of the most common, most severe, and most obstinate forms of visceral neuralgia, is that which affects the heart.

The identity of cardiac neuralgia and angina pectoris is disputed by many, and asserted by others, but it appears to me that the ground for the difference of opinion is rather relative than absolute; the idea of angina pectoris having been always associated with ossified, or rather with atheromatous coronary arteries, and with essential modifications of the nutrition of the organ, seems to be totally at variance with that of cardiac neuralgia, in which there is oftentimes no *apparent* structural disease. To those who would still endeavor to preserve the fanciful distinction between functional and structural diseases, the two conditions are apparently irreconcilable. But there are many cases of angina pectoris in which structural changes have progressed to a very slight extent, and there is no case of neuralgia in which structural changes have not progressed to a very slight extent. For I will here reiterate, what I have already endeavored to impress upon you, that any modification in the functional energy of a nerve, (or

of any other organ,) is necessarily preceded by change in its structural integrity.

I have just told you that many cases of angina pectoris were accompanied by no changes in the heart, recognizable by ordinary means of observation. In order to account for these changes, then, we are driven to assume a cause lying deep in the nervous system, most probably some change in the molecular organization of the nerves themselves.

The onset of cardiac neuralgia, like that of all other forms of the same disease, is sudden; the patient, without any warning, but usually after some active exertion, is seized with severe pain, resembling, in its severity and rapidity, a stab with a knife, described by most authorities as beginning at the lower part of the sternum, and extending through to the back and left shoulder, and down the left arm.

In some cases, however, and I have had frequent opportunities for observation, the pain begins, and is restricted to a small spot about an inch and a half below the nipple, corresponding to the point at which the cardiac impulse is felt against the wall of the chest. The stabbing sensation first experienced, is soon complicated with a feeling of compression, as if the heart were squeezed tightly or pinched. The countenance assumes an anxious expression, and is sometimes pale, sometimes livid; the pulse at times small and feeble, at others full and bounding, but always irregular, the prominent and constant symptom being irregularity of circulation. Under my own observation—and as I have already said, my opportunities for observing this disease have been frequent—the direct relation between the pain and the pulse has been strongly marked; the pulse stopping abruptly at the moment of the onset of the pain, during the time of one or two pulsations, and then beginning, but slowly and irregularly, recovering its rythm only after five or six beats. This relation has been so distinctly marked, that it has been easy to mark the onset and the subsidence of the pain by means of the finger applied to the pulse at the wrist, the patient's face remaining covered.

Authors describe this form of neuralgia as very rare before the age of forty. It sometimes occurs early in life; I have seen it as early as twenty-five.

In reference to the disputed identity of cardiac neuralgia, and the

angina pectoris of the older writers, it may be said, that those who attribute angina to structural modifications of the heart, seem to forget that nerve tissue is as much a part of the structure of that organ as muscle or connective-tissue, or any other; and that it is quite as reasonable to assume that changes in nerve tissue, such as atrophy or neuritis, may occasion disease, as that changes in muscle or connective tissue could do so. And totally unreasonable to assert that either tissue could be seriously diseased without involving the other to some extent.

There remains but one form of visceral neuralgia of sufficient importance to be specially noticed here. This is gastralgia, or gastric neuralgia, or neuralgia of the stomach, having for its seat the afferent fibres of the gastric division of the pneumogastric nerve. In this, as in all other neuralgias, the collateral evidences of debility are present. Its victims are principally women; it is in the case of these not unfrequently a reflex phenomenon, originating in uterine or ovarian disease. It is generally marked by more or less mental depression, which, like the pain, is intermittent in its character. Notwithstanding the apparent severity of the gastric disorder, the appetite is rarely interfered with. There is a peculiar feature about this disease which I believe to be pathognomonic, that is, the relief obtained by pressure; this is so apparent to the patient that he may frequently be observed beating his left side with his fist, for it is upon the left or cardiac extremity of the stomach, that the pain is most frequently felt.

Pharyngeal and laryngeal neuralgias occur most frequently in females, and as complications of hysteria. Of the former I have seen but one idiopathic uncomplicated case.

The above summary comprehends all the more prominent forms of neuralgia, which you will be liable to meet; but before leaving this portion of the subject, I wish to call your attention specially to one characteristic of the disease in general, and that is, its almost universal hereditary transmissibility. A neuralgic diathesis is rarely found without a neuralgic ancestry, or at least an ancestry marked by decided nervous instability of some sort or another. In the one generation the perturbation may involve cerebration, and in the other sensation, the insane parent generating the neuralgic offspring. Or again, in the one generation, disturbances of motor function, either in the direction of excess or defect, may be sup-

plemented in the next by derangements of the sensory function, and in these cases we find the neuralgic offspring of epileptic or paralytic parentage. This fact of hereditary transmission underlies the whole history of nervous disease. It must not be supposed that this is restricted to the reproduction of specific forms of nervous disease, or that nervous diseases never develop in the descendants of perfectly healthy ancestry. These, like all other disturbances of health, must originate somewhere, and of course just as well in the present as in any past generation. What is transmitted from one generation to another is that peculiar instability, motility of nerve tissue, which diminishes its resistance, and renders it so liable to derangement, under the influence of determining causes which induce this or that special form of disease. Thus a patient endowed with a nervous system of this character, may under the operation of certain influences become epileptic; under others, neuralgic; under others, paralytic; under others, insane; and so on, through an immense variety of morbid conditions.

These facts, together with the numerous instances of nervous derangement arising co-incidently with neuralgia, and undoubtedly dependent on it as their exciting cause, justify us in arriving at conclusions regarding its true seat. As already referred to in my last lecture, changes in nutrition and in motor function accompanying many cases of neuralgia, indicate a remarkable uniformity in the condition of the different nerves ministering to the various functions, and which indicates that the pain of neuralgia is not necessarily dependent upon changes in the peripheral portions of the nerve, but possibly upon changes in the nervous centre itself.

If we suppose that an afferent nerve, in a state of disease, should transmit to its appropriate centre an impression, perverted by reason of its own diseased condition, the nerve-cells of the ganglion or nerve-centre, destined to receive impressions through that nerve, would not undergo their normal molecular changes, but some other, or perhaps none at all, by reason of their insusceptibility to any other than their normal impressions. But these nerve-cells in a healthy state, under the influence of their appropriate changes, induce reciprocal changes in other nerve-cells, motor or trophic, of the same nervous centre, by means of which the proper functional energy of their efferent nerve fibres is excited.

Thus, for example, if a hot body be applied to the hand or foot, the afferent or sensory nerve being in a healthy condition, transmits to the nervous centre the impression of heat. The reception of this impression necessitates a determinate and invariable change in the nerve-cells of the centre, which are designed to receive that particular impression; this change induces determinate and invariable changes in other cells of the same central ganglion, by means of which the functional energies of certain efferent nerves, (motor or trophic) are called into activity, and the appropriate changes in motion or nutrition are thus effected. The sensitive surface is withdrawn from contact with the burning body, and vesication, or some other tissue change, occurs at the surface of contact.

This embodies the whole theory of reflex action—for you observe that I excluded the influence of the will entirely.

But, on the other hand, if the afferent nerve be diseased, it cannot convey a normal impression to the centre, the appropriate cell-modifications cannot be accomplished, the motor and other energies will be excited in an abnormal manner or not at all.

Again, the negative result may occur in the case in which the afferent nerve is healthy, and entirely capable of conveying normal impressions; but the cells of the centre are unfitted by disease to sustain their appropriate changes.

Or, still further, the receptive cells in connection with the afferent nerve fibres being healthy, the motor or trophic cells associated with them in the same nervous centre, may be themselves unfitted by disease to receive and transmit their normal modifications. Either of these conditions may exist in neuralgia, and either would sufficiently account for the morbid phenomena which so frequently accompany it. But when the additional fact is stated, that in post-mortem examinations of the subject of idiopathic neuralgia, (of course those of traumatic origin are excluded,) the extremities of nerves have usually been found unchanged. From which it may be assumed that in many, if not in the majority of cases, the disease is due to the condition of the nerve centres themselves.

I have been, perhaps, a little tedious in making the above explanation; but (as I mentioned a moment since) it involves the whole theory of reflex action, and unless you thoroughly master

this most important form of nervous energy, you will attempt in vain to appreciate the intricate complications of nervous pathology.

This presents a striking illustration of the conversion of force, and of the truth of the proposition that force is never lost, only converted.

Among the reflex effects of neuralgias are various affections of the skin and its appendages, developed in the manner just described. Erysipelas is occasionally observed; changes in the color of the hair are frequent. It is rare to find a neuralgic subject whose hair has not become more or less gray, in the vicinity of the affected nerves. These decolorizing changes are sometimes produced with great rapidity, it being sometimes quite possible to observe a marked increase in the grayness of the hair after a severe attack of neuralgia. It is asserted by some authors, that these changes are sometimes temporary, that the color will return to the bleached hair, upon the cessation of the pain, to be again discharged upon its recurrence. I have not observed this personally, but it is quite plausible.

Permanent changes in the nutrition of the skin have been noticed by some authorities, by which the integument assumes a glazed, shining appearance. This will be found, I think, to accompany neuralgic cases of traumatic origin, and it may be concluded, that they result rather from direct mechanical injury to trophic nerves, than to any reflex effect of neuralgia.

Thickening of bone is frequently found in old neuralgic subjects, at points near which the pain has been habitually felt; these, from being a consequence, become eventually a cause of neuralgia, by reason of the pressure which they exert upon sensory nerves. They result from the same pathological changes to which, in my last lecture, I attributed the persistent tenderness to the touch remaining after the subsidence of neuralgia attacks, *i. e.*, to a low grade of inflammatory action in the tissues contiguous to the painful nerve.

Mr. Anstie attempts to draw a distinction between reflex action, and what he considers the mode of production of some of these effects, *i. e.*, by transmission of disease from one root to another of the same nerve. This is simply shortening the circuit without changing the route. I cannot understand how an effect is to be

transmitted from a root of a nerve having one function, to that of another having another and different function without the intervention of a centre; as well might he attempt to transfer a telegram to a parallel line of wire without the intervention of a registering instrument.

Modifications in the secretory action of glands may occur, and frequently do, as reflex effects of neuralgia. A prominent illustration is furnished by the increased flow of tears accompanying neuralgia of the fifth nerve; and will indicate to you how the secretions of other glands, liver, kidney and other glands, are frequently found to be so greatly perverted in the cases of old neuralgics.

In my last lecture I indicated to you the prominent characteristics of neuralgia, and this affords the bases for diagnosis. Your diagnostic marks, therefore, will be—

1. The character of the pain, in reference to duration; it is either truly and completely intermittent, with intervals of entire ease, or at least with regularly marked periods of abatement, unaccounted for by other corresponding symptoms.

2. The pain is very much more severe than the amount of general constitutional disturbance would seem to justify. In former times, when the nature of nervous diseases was little understood, many a poor sufferer has been condemned by an ignorant doctor as *nervous*, because he complained of pain, and had no fever or dirty tongue, or diarrhœa, etc., to corroborate his complaints.

3. In the vast majority of cases, the pain is unilateral, and is limited to particular nerves and their branches. When bilateral it is symmetrical.

4. Fatigue, over-exertion of any kind, but especially of the mind, aggravates the pain.

Recognizing these characteristics or diagnostic marks clearly, you will then look for evidence of—

1. A neuralgic history, either personal or hereditary.

2. For some peripheral source of irritation, such as a mechanical irritant, a wound, a scar, carious tooth, etc.; the over-exertion of some particular organ, as the eye, for example.

3. For the evidences of some blood-poison, either malarial, rheumatic, or syphilitic.

4. In old cases look for tender points, where the nerves affected emerge from the bones.

5. And lastly, for reflex effects upon the circulation, the vaso-motor nerves, upon glandular secretion, or upon nutrition of tissues, or upon motor or sensory nerves, as in local paralyses or anæsthesiæ.

Maritz Benedict describes what he terms the *curve of intensity* of pain, and applies to the detection the exact location of the disease. Thus, for example, he asserts that if the disease be located in the peripheral extremity of the nerve, the pain is continuous; if in the course of the nerve trunk, it is paroxysmal; if in the nerve roots or centres, lancinating. Anstie cites, as confirming this theory, the pains of locomotor ataxia, which are lancinating.

The theory may be correct, but one fact is not broad enough for a foundation of a theory, and it cannot be accepted without a much greater mass of evidence than this. To this authority, (Anstie), belongs the limitation of the locality of neuralgia, to atrophy of the posterior roots of the nerves. He cites much testimony to sustain his position, but the question is yet *sub judice.*

Gentlemen, if you think that I have been tedious in detailing the characteristics of neuralgia, console yourselves with the fact that anæsthesia, pain, paralysis and convulsion, are the elementary factors in the whole range of spinal diseases; comprehending these, you have a good foundation upon which to build the nervous pathology of the future.

We come now to the treatment of neuralgia; and this,while it is to the patient the most important, is to the physician the most difficult portion of the whole subject.

It would be impossible for me to give you a list of all the remedies which have from time to time been suggested for the cure of neuralgia, for time would fail me, and you have them already, in the index to Wood & Bache's Dispensatory, which just about comprises the whole of them.

The treatment, however, may be divided into prophylactic, palliative, and curative.

Under the head of prophylactics, I include diet, and regimen, and tonic.

These should all be directed to the reconstruction of broken-down nerve tissue, specially, and of tissue in general. The diet should be a generous one. There can be no greater mistake than to starve neuralgics. Too many of them starve themselves volun-

tarily, under the impression that their sufferings result from dyspepsia—a mistaken idea. While it is true that this latter condition is not unfrequently an accompaniment of neuralgia, it is rather a local expression of the diminished nerve-power, which has already expressed itself in the neuralgia, than a cause of the pain. For you will find, as a general rule, that increase of appetite is a pretty accurate indication of the convalescence of the patient. The essential element of neuralgia being atrophy of nerve tissue, it follows that tissue-making, histogenetic, food must be supplied for the repair of that condition.

The food should consist largely of albuminous matters—meat, eggs, and above all, milk, containing, as you know it does, oil and phosphorous nerve-food; and this you will find your patients will bear, when they can take no other food. And last, but by no means the least, fatty matters, and the best of these is cod liver oil. This is often objected to by patients, who will tell you they have tried, can't take it, can't digest it, that it occasions diarrhœa, etc., etc. These objections are all valid as far as they go, but pertain rather to the mode and manner of administration than to the substance itself. The mistake usually made in the administration of cod liver oil, is its exhibition in too large doses, usually half an ounce. Give the oil in teaspoonful doses, and not until an hour or two after eating, in this manner it is not brought into contact with the gastric surface at all, by which it cannot possibly be absorbed, but mingled with the mass of food is carried into the duodenum.

Together with nutritious food, plenty of fresh air should be administered, with as much exercise as the patient will bear short of fatigue; and, most important of all, sleep. The most powerful means of restoring wasted nerve-power, in all cases in which it has been diminished, is sleep. On no account allow the subjects of nervous disease to be deprived of sleep; for every hour taken from the natural period of rest they will have to pay a fearful penalty.

In this connection, I may advise upon one subject about which you will frequently be consulted by anxious parents, that is, upon the amount of sleep to be allowed to children. Give them, invariably, all that they need; never wake a sleeping child, nor indeed a nervous patient, when it can be avoided.

A great deal of nonsense, poetical and prosaic, has been written and spoken on the subject of early rising, but be sure to give your patient a large dose of sleep, to be taken at early bedtime. If he can sleep eight hours, he will live the longer for it, and accomplish more in his lifetime than the early riser, who will probably retire early to his grave.

Of the palliative remedies I would mention, first, local applications. These comprise hot water, aconite, chloroform, or the two combined in some emollient vehicle, such as olive oil, belladonna extract, mustard, veratria in the form of ointment, and this applied by preference to the spinal column, and perhaps the most valuable of all, blisters. I have seen sciatica which resisted every other application, yield at once to blistering. Be careful, however, that the blisters do not remain too long, so as to establish a drain upon the blood-vessels, but rather apply them in the form of flying blisters, to be removed just before vesication commences, and re-applied in the immediate vicinity.

Under the head of palliative remedies, I should include hypodermic injections of morphia, although some of the highest authorities class it among the most valuable and powerful curative agents. Some indeed place it at the head of the list. It will undoubtedly produce sleep, and thus give the irritable nervous system time to appropriate nutrition and thus to accumulate force, or rather, to speak in more accurate physiological language, to resume a condition which will enable it to convert nutritive force into nerve-force.

I think this is all the advantage which can be claimed for any of the narcotico-stimulant remedies in use. The advantage is great, I admit, and is sometimes essential to the curative treatment, but I wish you to understand distinctly the true relations of these remedies to the disease, for unless you do, you will be misled in their application, and may find that you have made more opium-eaters than you have cured neuralgics.

One of the most valuable of this class of remedies is belladonna, or preferably its alkaloid atropia, in neuralgias of the pelvic viscera, uterine or ovarian. In my own hands it has no equal. My own impression of its effect is, that it is due to its power as a vaso-motor stimulant, in inducing contraction of the pelvic arteries, cutting off the supply of blood to the irritable nerves, and dimin-

ishing pressure upon them from the engorged vessels. In hemicrania it sometimes gives relief in the same way, I believe; to borrow from Professor Allen, "expertus loquor," that is, "I know how it is myself."

Under the head of curative treatment, I include nerve-tonics proper, that is to say, those agents which directly stimulate nerve-tissue and cause it to appropriate nerve-food from the blood, as distinguished from the effect of narcotics just referred to. These are—iron in all its forms and in large doses; the muriated tincture or tincture of the sesqui chloride; the pyrophosphate iron by hydrogen; the subcarbonate, and so on through the whole list: they are all valuable, and may be ranged about as I have mentioned them.

Strychnia is perhaps the most useful drug for the treatment of nervous diseases which we possess, while its toxic effects are manifested primarily through motor nerves. I believe its primary effect is upon the portion of the nervous system dominating the functions of nutrition. Its effect in neuralgia is sometimes most decided and rapid. It may be given alone, or, preferably, combined with iron. Phosphorus, in the form of dilute phosphoric acid, or phosphoretted oil, is highly esteemed by high authority. This agent possesses great theoretical value, in view of chemical composition of nerve-tissue into which it enters as a constituent more largely than into any other substance in nature. The objection to its use is the difficulty of administering it safely. Its compounds, phosphites and phosphates, I believe to be inert.

Prof. Hammond eulogizes highly the phosphide of zinc. I hope its effect will justify his encomiums, but I doubt it.

Arsenic, in the form of arsenite of potassa, or Fowler's solution, in five-drop doses, three times daily, largely diluted with water, and continued for a long time, five or six weeks, or even longer with intervals, is one of the most valuable nerve-tonics within our reach.

(To be continued.)

ARTICLE III.—*Diphtheritic Ophthalmia Treated with Carbolic Acid and Iodine.* By F. C. HOTZ, M.D., Oculist to the Cook County Hospital, Chicago.

Last year I published, in this journal, a number of cases of diphtheria which had been very successfully treated by the local use of a mixture of carbolic acid and iodine:

R. Acid Carbol. Cryst.,	dr. j.
Tinct. Iodine,	dr. ss.
Aq. Dest.,	dr. v.
Alcohol,	dr. j.

Among those cases there was one of diphtheritic ophthalmia of a very malignant character. The use of the above mixture arrested the progress of this inflammation so effectually, that after two days the eye was out of danger, and made a speedy and complete recovery.

These results were so encouraging, and so strengthened my belief of diphtheria being primarily a local affection, that I at once decided to use it again in similar cases; although the best authorities strongly urged in the treatment of diphtheritic ophthalmia, to abstain from all local use of irritating medicines. Their customary treatment, then, was the placing of the patient under good sanitary conditions, the use of ice (or warm poultices), and the liberal administration of mercury. The results of such treatment were, indeed, better than those obtained by energetic cauterization, which was previously so much in vogue. Still, this method of treatment must have been very unsatisfactory if such experienced oculists as Solberg Wells (in his Treatise on the Diseases of the Eye), had to confess "that we have, unfortunately, but little control over the disease during the first period." And just during this first, *i. e.*, diphtheric stage, the cornea is often destroyed, and so many eyes are lost for ever. To make our treatment satisfactory, we must have a remedy which curtails this most dangerous period of the diphtheritic ophthalmia. Now, after all my observations, the mixture of carbolic acid and iodine seemed to be the remedy wished for. It seemed to break up the diphtheritic (fibrinous) exudations—to melt them, as it were—and to induce their gradual reabsorption, without any disintegration of the inflamed tissues.

Fortunately, I may say, the diphtheritic ophthalmia is of rare occurrence in this part of our country, and an opportunity of trying the carbolated iodine mixture was not offered to me till August. Although it is one case only that I have to report, I will publish it to draw again the attention of the profession to a remedy which has given so great satisfaction to my professional friends and myself, and to induce others who may have ampler opportunity for its use to test its efficiency.

History of the case. P. W., aged twenty-five years, laborer, was admitted to the eye ward of Cook County Hospital, August 1, 1872. He had had gonorrhœa for several weeks, and had brought some gonorrhœal virus in his eyes. For one week before admission, his left eye suddenly began to inflame very severely, and four days later, his right eye showed the same signs of a violent inflammation. On admission, the eyelids were red, hot, very tender and greatly swollen, but, at the same time, of that peculiar, hard feeling due to a fibrinous infiltration of the soft tissues. This tenderness and stiffness of the lids rendered their eversion extremely difficult and painful. The conjunctiva of the lids was thickened, gray-white, impregnated, and covered by a fibrinous exudation, which could not be removed without pieces of the conjunctiva being torn out. The ocular conjunctiva also thickened, bloodless, yellow-white, like lard. The secretion of the conjunctiva was copious, but a thin, watery fluid, with some gray flakes of fibrine floating in it. There was no trace of the thick, purulent discharge peculiar to the blennorrhœa. The left cornea was completely necrotic; and in the right cornea, a small grayish-yellow cloud was discovered, near the inner margin. On account of this state of the cornea, warm water was used on the eyes, and calomel (half gr. every two hours) was given; but, on August 3d, no improvement could be noticed in the state of the conjunctiva, while the gray-yellow cloud in the right cornea had extended over its whole surface. The carbolated iodine mixture was then penciled over the conjunctival surface of the everted lids twice daily, and a compress, saturated with a diluted solution (thirty drops of the mixture to a teacupful of water) was kept on the eyes. This treatment very soon broke the violence of the inflammation, and operated so successfully that, on August 6th, all traces of diphtheritic exudation had disappeared. The then red and succulent

conjunctiva, the swollen, but soft and flabby lids, and the thick, creamy discharge, indicated that the disease had passed over into the second period, *i. e.*, into blennorrhœal inflammation. This readily healed under the use of sol. argent. nitrat. (scr. j to oz. j, aq. dest.), and the conjunctiva recovered its natural appearance. The improvement in the state of the conjunctiva was closely followed by a favorable change in the condition of the right cornea (the left cornea being totally mortified, was, of course, irretrievably lost). The cloud contracted and gathered into a small abscess in the internal half of the cornea, its external half having become perfectly clear and transparent. The abscess broke through the anterior epithelium, and, filling up with new tissue, it healed in a dense, white opacity near the inner margin of the cornea. But as the center of this membrane, opposite the pupil, had regained its full transparency, the patient had very good sight when he was discharged.

ARTICLE IV.—*The Present Status of the Pessary in Gynecological Practice.* By PHILIP ADOLPHUS, M.D., Chicago.

In classical treatises the pessary is the remedy *par excellence*, in flexions, versions, prolapse; in cases of irritable uterus, etc.

It is the aim of the writer to indicate its true sphere of usefulness, and to limit its indiscriminate use, without acquiescing exclusively in mere theories, whether inflammatory or mechanical.

The moral weight of the French school, led by Velpeau, imposed a theory and practice entirely mechanical, which, since 1854, has dominated over the medical world, and the result of which may still be seen in the thronged show-cases of the instrument vender, where pessaries of every shape, size and material are on exhibition.

Do uterine displacements, of themselves, produce any pathological state of the organ? Or, are these displacements caused and maintained by some complication, such as ulceration, engorgement, granulation, etc.?

Again, are the symptoms which accompany displacements, the results of nervous irritation, inflammatory congestion of the

womb, ovarian complications, or disturbance of the ganglionic system?

No mere theory of any man or school, however eminent, can determine this. Observation alone, conducted by practical men, not biased by any theory, can elicit a practice which will maintain the golden medium of safety.

In order to determine in what affections the pessary should be advantageously used, the writer will avail himself of the method of exclusion, and state where it ought not to be employed.

It should be interdicted in diseases superinduced by morbid menstruation, whether the menstrual flow is increased, deficient, or ceases entirely.

According to Tilt, "the ovary ranks above the uterus; the womb is the appendage of the ovaries, as the bladder is that of the kidneys. It is the ovary which calls the uterus into action, imparting to it a stimulus which is either healthy or morbid, periodical or continuous."

Therefore the inciting cause of menstruation resides in the ovary; not the womb. The periodic turgescence of the ovaries is admitted by all. How easily, then, may not an exciting cause, such as sexual intercourse, cold, emotional shocks, stem pessaries, caustics to the neck of the womb, instrumental measures, injections, etc., transform the only physiological process in the body which is attended by nervous disturbance, into a series of *pathological phenomena*, which in their various manifestations will awaken, by means of the sympathetic nerves and their ganglia, the *solar plexus*, which, through the instrumentality of the spinal nerves, connecting with the ganglia, transmits the morbid sensations to the brain.

For the sympathetic system, besides other functions, according to Bichat, Winslow, Brown-Sequard, and others, "constantly reacts upon the cerebro-spinal system; in health imparting a sense of strength, without any sensation referable to the organs of vegetative life; but should they be diseased, then the ganglionic nervous system convinces the brain that it is intimately associated with a kidney, a liver, or a womb."

Hence the various symptoms of physiological menstruation, viz., ganglionic cerebral and spinal; the sanguineous mucous, and gastro-intestinal discharges; its influence on the cutaneous, and

on the urinary surfaces, and urinary deposits, are intensified by becoming pathological. Thus we have these symptoms imputed by authors to various affections of the uterus, when in fact they originate in the ovaries.

In all these affections the condition of the pelvic organs should be considered; not merely the uterus, but the ovaries and fallopian tubes, are more or less morbidly influenced; therefore, the introduction of any foreign substance tends to produce cellulitis, pelvi-peritonitis, and hæmatocele. Indeed, the writer asserts that uterine diseases and uterine pathology should be entitled, respectively, ovario-uterine diseases, and ovario-uterine pathology. Were this opinion generally acknowledged by physicians, our practice would accord with correct anatomical and physiological principles.

Therefore, it is to be recommended, that, before commencing treatment in chronic diseases of the pelvic organs, complicating affections of their peritoneal coverings and the cellular tissue be excluded. Serious consequences are often caused by pessaries and other procedures, when milder expedients might have avoided any risk.

Pessaries are contra-indicated in cases of flexions where the womb is retained by cellular tissue, due to peritoneal exudations. It is here impossible to restore the organ without violently rupturing these adhesions.

In other cases where the uterus is movable, the intra-uterine pessary no doubt corrects the faulty position and retains the organ, yet its use is so dangerous, that it is universally condemned by the profession, and has consequently fallen into disuse.

Versions, as such, do not require treatment; when, however, the displaced womb is diseased, this becomes essential. Let the congestion and sub-acute inflammation that attends uterine versions be eliminated, and the pessary would be seldom required. The ever recurring ovarian irritation and uterine congestion is, however, ultimately extinguished by cessation of menstruation; and many women, at that period, with versions, lead without inconvenience an active life.

No pessary should be introduced when ovarian and metritic inflammation is present, or after the occurrence of the third month of pregnancy.

Lastly: cases where the vagina is delicately organized, making it intolerant of a hard substance, or where a prolapsed or inflamed ovary is present, likewise forbid its introduction.

Having eliminated those pathological states in which the application of the pessary is injurious, the writer will proceed to enumerate the conditions in which its use is advantageous.

Abortions are sometimes caused by a retroverted state of the uterus; this accident is obviated by wearing a pessary up to the period of quickening, for then the organ rises out of the pelvis.

When flexions of the uterus cause sterility, by preventing the entrance of semen into its cavity, the wearing of a pessary during intercourse is often followed by the happiest results.

Exceptionally, we find patients where the introduction of a pessary dissipates constitutional disturbances, irritation of the rectum and bladder; and enables immediate walking, without the slightest cognizance by the patient of the presence of the pessary. Every busy practitioner has met such cases.

However, the general average of cases teaches us, that with the exception of prolapse, uterine deviations seldom cause suffering. Uterine and ovarian congestions, inflammations, and neuralgias, are the cause of the pain and the other symptoms. It is, therefore, essential to treat the disease which may be present. Should this have disappeared, local mechanical means may be used.

The majority of patients of the poorer class, who suffer from prolapse, require a prompt and cheap remedy. A pessary here is useful to alleviate the disease; not to cure it. It is, however, necessary always primarily to treat complications, and try to remove them, before its introduction.

Thus, in complete prolapse, we have hypertrophy of the organ; in consequence of displacements of the bladder, we find fungous vegetations; hyperæmia and pain should be treated by leeches and anodynes. Moreover, it is necessary to remove ulcerations thoroughly before permanent retention is thought of.

The only complication in prolapsus which requires no preliminary treatment is hypertrophy of the womb.

The writer but echoes the voice of experienced specialists, when he asserts that the pessary fails in the hands of the inexperienced and the careless. As it emanates from the shop, it is the

raw material which has to be adapted to each individual case with the greatest nicety. Those only, who have made its application a study of years, and who have consequently had most success in its use, are entitled to be heard in its praise and condemnation. By far the majority of these adepts have far less confidence in the pessary than formerly, for they remove many more than they insert.

I shall close, with the words of the younger Storer, which fairly represents the voice of the profession: "In many cases, even where skill was used in their adaptation, they did harm. Whilst relieving the backache, difficulty of micturition and inability of walking, it calls the attention of the practitioner from sub-involution, hypertrophy, etc., which had originally occasioned the displacement, and leads the patient to think herself cured, while in reality the disease itself is becoming more chronic.

318 West Madison St.

Selections.

The Effects of Cold upon the System. By R. W. Murphy, M.D., Sacramento, Cal.

As an underlying primary cause of disease, there is, perhaps, none wider in extent or greater in variety than cold. Its influence is as broad as the human race, reaching from infancy to old age; embracing alike in its deathly grasp the rich and the poor—the king and the beggar. No occupation, position, nationality or color can claim exemption; all are alike its subjects. The effects of cold upon the system, and the diseases and mortality consequent upon it, are truly alarming. Its victims outnumber those of cholera, small-pox and rum, all combined. Thousands, yea, millions, are being carried away annually by this agent. All classes, both of physicians and laity, seem, by a common consent, to admit its claims to and supremacy over mankind, without questioning its right, or offering any resistance to its secret invasion. The temperance orders keep a standing army in the field to try to keep down the rum traffic, and prevent its poisonous influence among mankind. We also have our quarantine laws, for protection against the introduction of cholera, small-pox, or any epidemic disease calculated to increase our mortality reports, or render our sanitary condition less secure. And when such epidemics are found among

us, every effort is made by our boards of health to stay their onward spread; sanitary laws are strictly enforced, signals displayed, liberties restrained, and the various disinfectants used to keep down the enemy and drive him from our midst. While, upon the other hand, cold does not so much as receive a thought from any of our teachers of medicine, physiology or hygiene, unless they should be laboring under an attack of it at the time, although their attention is called to the subject almost daily; for you meet a friend, and how common the remark in connection with the compliments of the day, "All well, except a bad cold."

How often we hear the remark in the sick room, "Doctor, I have taken cold," or, "My child has taken cold;" and if the doctor is asked what is the cause of the sickness, he will doubtless, in a majority of cases, say it is from cold, especially if he is at a loss to comprehend the pathology of the disease. And the remark has become so proverbial, that the answer is quite satisfactory.

We have, as the result of this agent, a list of diseases that would well nigh exhaust the nosology of Cullen, and astonish the student of pathology. A classification of them would be too voluminous for this short essay. Suffice it to say that there is not a bone, nor muscle, nor tissue, in the system, but may have its physiological functions suspended, and become the seat of a pathological derangement, through the agency of cold. It should be regarded as the great enemy of physiology; as the father of pathology.

The external action of cold upon the system, when uniform, and continued for some time, produces general peripheral capillary contraction, depriving the parts of their usual amount of blood, thereby throwing a proportional amount upon the brain or some internal organ, causing hyperemia and congestion of the parts, with all the serious and fatal results we so often find. Professor Gross, in his remarks upon the primary effects of cold upon the general system, says: "They are those of an agreeable stimulant; the circulation is increased in force and frequency, a slight glow pervades the surface, and the individual is universally exhilarated. By and by this agreeable feeling is changed into one of pain and torpor; the brain is oppressed, as if under the influence of a powerful narcotic. A feeling of numbness and weight follows, with a peculiar prickling sensation." If the impression is maintained for any length of time, the parts become stiff and insensible, the blood, retreating from the surface, leaves it of a pale, whitish aspect, and gangrene and death soon follow.

Professor Gross further remarks that frost-bite was very prevalent among the English troops during their first winter in the Crimea, and the French suffered in still larger numbers, as well as more severely. On the 21st of January, 1855, not less than 2,500 cases of frost-bite were admitted into the French ambulances, and of these 800 died, death in many instances having, no doubt, been expe-

dited by the effects of erysipelas, pyemia and hospital gangrene. Out of 460,000 soldiers lost by Napoleon in his Russian campaign, at least one-half died from the direct effects of cold upon the system. I think the disease from the direct action of cold is much greater than is generally estimated, but, considerable as it may be, it is small as compared with the reflex chemical action of this agent.

How do we take cold?

We do not take cold, in the general acceptation of the term, by merely getting cold, especially if the action is uniform over the system. This is well illustrated in the use of the Turkish baths, when a person coming out of a room with a temperature of 100 or 110, and while in a high state of perspiration, is showered with cold water without any bad results.

The frequent falling into the water when cold as ice, or, in some instances, breaking the ice to get to the water to immerse a subject, with no bad results, are additional evidences of the fact. But let one of those same persons get their feet wet, or a current of cold air blow across them when in a state of perspiration, or recline a few seconds upon the damp ground, or against a damp, cold wall, and the results are, they have taken cold. Dr. Austin Flint, in the third edition of his "Practice," says, in his remarks upon bronchitis, that the "disease is frequently, if not generally, produced by the action of cold." Exposure to cold is supposed to produce this disease by interrupting the eliminative functions of the skin, whereby an increased duty is thrown upon the pulmonary mucous membranes, thereby inducing congestion.

"This view of the causation is inconsistent with the fact, that a large proportion of cases of bronchitis are not traceable to any unusual exposure to cold. There is abundant evidence, however, to show that exposure of a portion of the body to a current of air is liable to excite an attack of this disease."

Another idea, very generally entertained, that the application of cold to a part of the system, depriving the part of its usual amount of blood by producing an increased capillary contraction, which causes an undue amount of blood to be thrown upon the weakest parts of the system, creating hyperemia and congestion of those parts, is also unsupported by facts. If this theory be correct, a person who is enfeebled from the loss of blood, whose volume has been reduced forty or fifty ounces, should not take cold as readily as the person whose system is full of blood, and every organ supplied with all it can contain consistent with the laws of health. But, do we not find the reverse to be true? Again, should this theory be correct, the catamenial flow should be increased, instead of suppressed or suspended, from the action of cold, since the discharge is found to be identical with the blood, and the uterus to be in as highly an impressible condition as is consistent with the laws

of physiology. But our experience renders a different verdict. Local hemorrhages should be increased when the application of cold is to some other part of the system, instead of retarded or suppressed, as we often find to be the case when a person takes a bad cold. It is the reflex chemical action of cold upon the system that claims our attention at present.

It is now an established fact, according to Bernard, Brown-Sequard, and others, that the contractile elements of the blood-vessels are presided over by motor nerves. These are, in consequence, named vaso-motor nerves. Their action produces diminution in the caliber of the blood-vessels. If the action of the vaso-motor nerves be suspended, the blood-vessels dilate, most probably because their contractile elements being paralyzed, the pressure of the blood is able to distend the vessels. The vaso-motor nerves are derived immediately from the sympathetic ganglia. But Ludwig and Thiry have shown that the nerve-cells presiding over them are not contained in the sympathetic ganglia, but in the medulla oblongata. They locate this great vaso-motor center, in the experiments they made, to extend from one millimeter below the corpora quadrigemina to five millimeters above the calamus. It lies on either side, at a little distance from the middle line. From this center, the vaso-motor nerves pass down the spinal cord to all of the system. They leave the cord in the anterior roots of the spinal nerves; from thence they either pass through or receive branches from the ganglia upon the sympathetic and proceed to the blood-vessels.—*London Lancet*, of April, 1872. There are some small peripheral vaso-motor centers capable, no doubt, of producing a reflection of nerve-force, but to so limited an extent as not to claim our attention at present.

Professor Rutherford, of King's College, in the same article, says: "The general vaso-motor center in the medulla oblongata appears to be in almost constant action, thereby keeping up some degree of contraction of the vessels. The activity of the center may be increased or diminished by the excitement of various nerves. It may be increased by stimulating sensory nerves, by accumulation of carbonic acid in the blood, and by certain emotions. *Increase of its action* following the *stimulation* of *afferent nerves* leads us to think that there is a reflex-nerve mechanism whose nerve-center is in the medulla oblongata."

The action of cold upon the system *through* this great vaso-motor center is effected from all points through the afferent nerves. From the exceedingly fine peripheral nervous structure, the afferent nerves have their origin in fine nerve-tubes, which contain their protean threads or axis cylinder; these form into fine bundles, surrounded by a medullary sheath, which prevents the interruption of molecular motion from the other forces or motions in the system.

According to Herbert Spencer, "these fibres have their termini in a nerve vesicle or cell. The very delicate membrane that envelopes the nerve fibres becomes the inner lining of the nerve-cell vesicle, and is a non-conductor of molecular motion. The nerve vesicle not only forms a connecting link between the afferent, efferent and centripetal nerves, but it also becomes a reservoir of molecular motion, which is given out when disturbed, being composed of vesicular matter."

The lines of continuity from this vesicle, or primary nerve-center, to a higher one approximating the spinal cord, are called by some the centripetal nerves, but are identical with the afferent nerves, with an increased capacity for conveying molecular motion. Through these nerves and vesicles the peripheral disturbances reach the spinal cord, and through the cord, by similar nerves, up to the great vaso-motor center in the medulla oblongata, where the force is reflected through the vaso-motor nerves to any or all parts of the system. Dr. Dittman, in his experiments, says he thinks it is certain that there is a system of fibres in the substance of the spinal cord which, though they do not belong to nerve roots, are capable of responding to the action of direct stimuli, and can transmit the impressions thus generated along the whole length of the spinal cord up to the medulla oblongata, where they undergo reflection into motor nerves.—*London Lancet*, of May, 1872.

The fact that the general application of cold to all the system at once does not result in the person taking cold, is because the molecular action of all the afferent nerves is uniform; that each and all of the vaso-motor centers are alike stimulated, and their action, although greatly intensified, is uniform; and their action being uniform, we have the like uniformity in the contraction and dilatation of the vascular system, consequently the equilibrium of the vital forces remains undisturbed. But it is not so when only a portion of the system is exposed to the stimulating action of this agent. The force transmitted by chemical action to the great vaso-motor center when only a small portion of the afferent nerves is called into action, is not sufficient to stimulate the entire vaso-motor center to action; the result is, that the force transmitted and reflected only calls into action one or two of the vaso-motor nerves. The action of these nerves is greatly intensified, causing a corresponding contraction of the blood-vessels over which they preside, the action falling mostly upon the capillaries and small arteries, which become so contracted as to interrupt and greatly retard the circulation of the blood in the parts, and we have, as the result, congestion, diminished supply of oxygen, blood poisoning.

With this view of the action of cold upon the system, we can readily understand how it is that a "slight peripheral disturbance from cold, setting up molecular action in the afferent nerves, which

wave of molecular action upon reaching the first nerve vesicle, disturbs the unstable vesicular matter; this gives off its latent force, which adds to the force already being sent through the afferent nerves. From this primary nerve-center or reservoir of molecular motion, we have an *increased* molecular action propagated along the centripetal nerves until it reaches the great vaso-motor center, where it undergoes reflection into some of the vaso-motor nerves," whose terminal action may be in the lungs, the throat, the liver, the kidneys, the heart, the pleura, the eye, or the ear, producing disease of any or all the organs and tissues in the system. When the terminal action falls upon the joints or muscles, rheumatism, ostitis and periostitis are in like manner produced.

We think the action of cold is manifest in the development of boils, abscesses and carbuncles. In these the chemical action is quite limited in extent, but the intensity is sufficient to cause congestion of the parts, which deprives the protoplasm in the tissue-cells of the supply of oxygen necessary to sustain its vital relation; death of the cells is the result. This effete matter, though not larger than a pin's head, sustains the relation of a foreign body, and, unless absorbed, must result in elimination by suppuration. It further manifests itself in the development of the various tumors, both malignant and non-malignant. This is most likely caused by a diminished supply of oxygen, which so alters the vital condition of the cells that their physiological functions are no longer sustained. This altered condition of the cells still retains a *morbid* vital relation with the power to assimilate or metamorphose cells of its own character; thus building up, as it were, an independent growth in the system.

Cold, as a chemical agent, is most potent, as we all know. This agent, acting upon the peripheral nerve structures, as before remarked, evolves, by chemical action, a force which is communicated by molecular action along the afferent nerves to the great vaso-motor center.

This, like any other force in nature, naturally follows the line of least resistance; hence, the vaso-motor nerves most impressible would receive the force thus transmitted and reflected. The impressibility of nerve depends upon its peculiar vitality, whereby the molecules act readily and with such uniformity as to transmit an isomeric wave uninterrupted, or with greater facility than its neighbor.

Another fact in connection with nerve action is, that the more frequently a wave of molecular action is propagated along a nerve, the more readily will the molecules act. A person taking cold to-day, which is reflected into the lungs or throat, will be more likely to receive the next impression along the same line of nerves, than in any other part of the system.

The vital condition of the nerves is constantly undergoing a

change, for, like other tissues, these nerve molecules are giving off effete matter and receiving new material and vitality from the blood, and are liable to the vicissitudes and interruptions that other tissues are, being at times more susceptible to impressions than at others.

A person may have such a condition of the nervous system to-day that exposure to cold fails to excite molecular action in the afferent nerves; but, in less than twenty-four hours, may receive and transmit the same with most wonderful effects. It would seem that the vaso-motor nerves presiding over the uterus have their vitality elevated, and the molecules rendered more susceptible to impressions during the catamenial flow than at other periods, which accounts for the catamenial suppression from the chemical action of cold.

We should also bear in mind that the greater the distance traversed by the afferent nerves, and the greater the number of nerve-vesicles contained in the line, the greater will be the force transmitted to the medulla oblongata. And well might the poet, upon beholding this strange phenomenon of nature, say:

> "The feet with the head hold wedded intercourse,
> And all by moods and tides."

The sanitary condition of the atmosphere has much to do with the chemical action of cold upon the system. Niemeyer, in his Practice, in speaking of influenza, says "that in the year 1732 it appeared through Europe, from east to west, in the form of an epidemic; attacked at least one-half of the population—the disease being dangerous to children and old persons. Since then, it has appeared several times as an epidemic—in 1800, also in 1835, with like results." And this able expounder of medicine and pathology assigns no other cause for this disease than cold. We find it true, that here in California, when we have those heavy northerly blows that visit us annually, the electrical and sanitary condition of the atmosphere is greatly changed, and the complaint of having taken a cold is very common, if not an epidemic. I think it is safe to predict that the time is not very remote when chemists will furnish the means by which the sanitary condition of the atmosphere will be as easily read as the thermal condition is at present.

You may regard my prediction as being both premature and mythical, but an element so indispensable to human life has not received that attention at the hands of science that its importance demands.

Moisture is another great auxiliary to the chemical action of cold upon the system, by reducing the temperature to a lower standard; also, by softening the effete cuticle, and rendering the peripheral nerve-structure more susceptible to chemical action. Hence it is that persons putting on under garments a little damp, or getting a foot wet, are liable to take cold.

Habit, also, has much to do with our taking cold, as is shown when a person who has been accustomed to wear a necklace, even small, will often take cold upon removing it. The removing of flannels from children, or taking off their shoes and stockings and running barefoot upon the damp ground, will cause them, most likely, to take cold; but in a short time, if continued in, the cold fails to excite molecular action in the afferent nerves, and the child can run in the cold, even in the snow, barefoot, with impunity. The state of the mind has much to do with our taking cold.

An excited, determined state of the mind liberates and sets up an internal molecular action from the cerebral organs, which may prevent the wave of molecular action from the afferent nerves reaching the medulla oblongata. But let the mind be at rest, or the individual be asleep, and the same chemical action which had been stayed in its progress now meets with no resistance, and the force, though light, is felt in some part of our system, interrupting the harmonious laws of physiology. I do not propose to consider cold as a therapeutical agent at present; its claims as such, in the hands of the skillful physician, are worthy of our consideration.

What is it to take cold? It is a suppression or suspension of the respiration of the parts, caused by the reflex chemical action of cold depriving the parts of their normal supply of oxygen, and causing a retarded or suspended elimination of carbonic acid.

What are the results? Dr. J. C. Peters, of New York, says: "We know that muscular tissue has natural electric currents of its own, which are constantly passing in certain definite directions as determined by delicate galvanometers. The center of each muscle-molecule is held to be normally in a state of positive electricity, whilst its poles or sides next the other nearest molecules are negative, thus resembling a zinc center and copper poles when immersed in diluted acid. The normal muscle currents are derived from the molecular chemical changes constantly going on in the nutrition of living tissues, and are connected with the process of osmosis which takes place through the sarcolemma. Disturbances of these chemical osmotic processes cause irritability and irregular contractions of the muscles."—*New York Medical Record.*

With the authority just referred to, I think I am warranted in saying that every tissue in the system, as well as the muscles, have their vital or electrical currents, which are governed and kept up by a law of animal chemistry; that the oxygenized or vitalized protoplasm in the cells is the basis of all healthy physiological functions of the system; and the results of our taking cold are a diminished supply of oxygen to the tissue, which impoverishes the protoplasm in the cells, and is the underlying cause of a large proportion of diseases. "And as the different sounds that greet the auditory are but so many altered conditions of the atmosphere, and our different thoughts but so many altered conditions of the ethereal

essence of our spiritual natures," so are the various diseases but so many altered conditions of the vital forces of the system.

What can be done to prevent persons from taking cold? Uniformity of temperature is the great desideratum, together with a thorough and uniform system of ventilation, and uniformity of habit.

Thermometry in Health and Disease. By F. C. CURTIS, M.D., Albany, New York.

Within a few years, comparatively, various mechanical contrivances have been devised for assisting in the diagnosis and prognosis of diseases, and for obtaining indications for treatment. The thermometer is one of these physical assistants, the clinical use of which is the subject of this paper. Like all the others, it is only an assistant, but is at least that, and I believe its use should be more extensive than it is. Outside of the hospitals I doubt if it is used much, and, while the hospital is the place to study the instrument, because the patients are there in a body and always close at hand, still it is very portable; and, although regularity of observation is a vital point in its use, yet a single observation is often of great value.

The instrument used is a modification of the ordinary mercurial thermometer. A thermo-electric apparatus has been devised which surpasses in delicacy the best mercurial instrument, and by which the temperature of internal parts can be obtained. It consists of two wires, of different metals, soldered together, and having their free ends brought into communication with a thermo-electric multiplier. The wires are passed into the tissues like acupuncture-needles, and the temperature of the point of contact of the two metals is indicated. It has thus been found that the body is cooler toward the surface. But for obvious reasons this apparatus is only adapted to scientific investigation, and the mercurial thermometer is the only instrument of practical usefulness.

Great care should be used in getting an accurate thermometer, especially if the observations are to be preserved for reference. There may be good American instruments made, but I have never seen one. I found in the New York Hospital three, of New York makers, all of which varied nearly a degree. A fault which renders an instrument nearly useless, is an unequal variation between different degrees. I believe the best—most accurate as well as portable—is that made by Casella, of London. The Germans make very good instruments, but as a rule they are graduated to the scale of Reaumur, or Centigrade. Casella's are carefully made and tested, and are graduated to fifths of a degree. The instrument should be sufficiently delicate to reach its maximum in three minutes,

except in a very emaciated subject; some will continue to rise for ten minutes. It is best to have it self-registering. In these, the index consists of half an inch of mercury detached from the rest by a minute speck of air. This avoids the necessity of stooping over in close contact with the patient in such diseases as typhoid, which are more or less contagious; the sick-room, too, is often darkened so that it is not easy to read it *in situ;* it can be trusted to the nurse for one of the daily observations better than the non-registering instruments.

The axilla is the usual point for taking the temperature, and if another point is chosen, it should be noted, as the temperature differs. It should be properly inserted. On the brachial side of the axilla, a little down, it will be noticed that a fold forms as the arm is carried across the body. Lay the bulb in this place, first drawing the clothing well away, and then carry the hand over to the opposite shoulder, the object being to surround the bulb entirely by living tissue. With female patients who may feel a delicacy toward exposure, direct the nurse to lay a towel over the chest before opening the clothing enough to insert the bulb.

Although single observations are often valuable, it is much better to take them continuously. The relation of morning to evening temperature, and the range from day to day, are very valuable, the main usefulness of the instrument being here. If taken continuously they should be regularly, from 7 to 9 o'clock in the morning, and 5 to 7 o'clock in the evening.

The clinical thermometer indicates pyrexia and measures its amount with accuracy. The value of thus accurately determining the amount of heat in disease was first insisted on by De Haen, of Vienna, about a hundred years ago. Heat of body above the normal has been noted as indicating disease ever since medicine was practiced, and is generally recognized by the people as pathological. But the only indication of it has been the hand of the doctor, or the sensations of the patient. Neither of these is reliable; the former is only comparative, varying with the warmth of the hand—the latter cannot be depended on, as is shown in a chill, when the body feels cold to the patient, though really the temperature is elevated. I had been taking the temperature of a patient with erysipelas for several days, the case had gone on to convalescence, when, one evening as I came to take it again, I found the patient in a chill initiatory of relapse, and while in it I found the temperature above what it had been, and 2° above normal. It may be that in these cases the skin is really colder from the nervous contraction of the blood-vessels, but the blood is warmer, and begins to be so before the chill comes on.

But, aside from the mere detection of pyrexia, which of course can in most cases be detected without an instrument, there is the accuracy of measuring it which can be gained by it alone. The

value of this I can show farther on, in getting the typical range of diseases, in finding the extremely high ranges, as 108° or 110°, which by the hand cannot be distinguished from considerably lower ones, etc. Anything which makes medicine less an art and more a science, and does away, in any degree, with the vast amount of uncertainty which surrounds our practice, ought to be cherished as it deserves.

Pyrexia is abnormal elevation of temperature. This definition implies the possibility of changes within the bounds of health, and such is the case. The normal temperature of the axilla of adults is 98.5°, and the range of healthy fluctuation is quite limited. Climate, exercise, different hours of the day, are some of the agents affecting it. Dr. John Davy, who experimented largely, found variations between temperate and tropical regions. The average temperature is nearly a degree higher in tropical climates. In temperate, the *maximum* temperature is found in the early morning, being on the average 98.7°; falling steadily through the day until midnight, when it is 97.9°. In tropical regions the minimum temperature is in the morning, being 98.05° on an average, from which it rises steadily until night to 99°, a variation of nearly a degree. The variations of temperature of the air do not necessarily affect it, though exposure to extreme heat or cold may do so. Active exercise short of fatigue raises it; beyond this point it lowers it. It falls after a full meal, but rises as digestion advances. It is thus seen that variations of temperature between 98° and 99° do not necessarily indicate disease.

There are other variations, peculiar to early life, to the puerperal state, which is in the border-line between physiology and pathology, and also there is difference of temperature in different parts of the body. Dr. Forster gives, in the *Journal fur Kinderkrankheiten*, 1862, the result of an extensive series of observations on the newly born, the temperature being taken in the axilla. At the moment of birth the temperature is the same as that of the mother; it falls directly until in from fifteen minutes to two hours it reaches 28.97° Reaumur or 97.18° Fahr., the average of all taken; the lowest taken was 95.5°. After this fall, immediately following birth, the temperature gradually rises for thirty-six hours, reaching a height of 99.6° Fahr. After the thirty-sixth hour it falls somewhat, but slowly, for four days, when it reaches about the temperature of the healthy adult. It soon rises again, from the fifth to the eighth day, but this oscillation is slight in amount, reaching an average of 99°. It falls somewhat after this, but the temperature of young children is, as a rule, higher than that of adults. The daily range too is greater, amounting to a variation, according to Mr. Finlayson, of 2°. According to the same observer, there is invariably an evening fall in temperature, being lowest between 7 and 9 P. M., and highest about 4 A. M., there being during the day but trifling

variation. These normal variations should be borne in mind when using the thermometer in children.

In the later months of pregnancy the temperature of the body is somewhat increased, according to Mr. Squier, in the London *Lancet*. It is not raised much by a natural labor, any more than strong exertion of any other kind affects the person in health. Toward the close of labor the vagina shows an elevated temperature, in one case being noted as high as 99.9°. In prolonged labor, where muscular exertion is severe and continued, a temperature of 102° is sometimes reached, which can hardly be called normal. It subsides soon after labor. The slight febrile action coming on two or three days after labor, called milk-fever, has an elevation of temperature variable both as to height and duration. It is more prolonged in primiparæ, and has been noted as high as 102° or even 104.3°, lasting in the latter case for twelve days, though the breasts were not affected. A sore nipple, or slight inflammation of the breast, raises the temperature.

Different parts of the body have different temperatures. There is a difference of 1° between the covered parts of the surface, as the axilla, where the bulb may be entirely surrounded by living tissue, and the cavities which open externally—the mouth, rectum, and vagina. I believe the lungs are cooler than the abdominal organs, because of the entrance of outside air, and there is a difference in temperature of the blood in the two sides of the heart. The blood coming to the heart by the superior vena cava is of lower temperature than that of the inferior. A recent number of the London *Lancet* contains the interesting fact, that the cranial cavity is of lower temperature than the body generally. There is a difference of $\frac{7}{10}$° Centigrade, or more than one degree Fahr., between the cranial temperature and that of the rectum. Chloroform lowers the temperature of the body generally, and this is more marked in the cranium. The same is true of chloral, and of morphia in large doses, though small doses increase it. But in poisoning by alcohol, the cranial temperature rises above that of the rectum. The experiments were made on dogs and other lower animals, but how the temperature of the cranium was taken is not stated. Mr. Blake, (*Medical Times and Gazette*,) found a difference of from $\frac{1}{2}$° to 1° in the left side of the body over the right, but only during exertion. It was more marked when exercising under a powerful sun.

In this connection I may also speak of *post-mortem* elevation of temperature. De Haen, who first used the thermometer, observed a rise of temperature in the death-agony, which persisted after death. The point being forgotten, was recently re-established, and a prize-article written on it by Valentin, at the University of Berne. Experiments were made on various lower animals. It was found to be true in all cases. It is due both to an increased develop-

ment of heat, and to diminished loss of heat. The vital processes which ordinarily develop heat during life persist after death—that is, after the heart ceases to beat—especially certain nervous influences; and probably *post-mortem* disintegration and decomposition may aid in the development of heat. *Rigor mortis* is thought to have but little influence. It would be interesting to know how the *post-mortem* temperature is after sunstroke, in which disease the body-heat is very high, and after death there is no *rigor mortis*.

The retention of heat after death is favored by the cessation of perspiration, and the consequent lessened evaporation from the skin. Evaporation of perspiration is the safety-valve in life to those exposed to heat. As long as this is active, there is little danger of the high ranges of temperature. In sunstroke it is stopped, and when the body-heat reaches 110°, as reported by Wilson Fox in rheumatism, the perspiration, which is usually excessive in this disease, has stopped.

I have thus, somewhat rapidly, sketched those variations and conditions of thermometry which are outside of that portion of the subject which considers them in the sick patient. We find the healthy body maintaining a temperature varying very little, though surrounded by an atmosphere which changes from day to day, which in the course of the year goes through wide ranges, and in the torrid zone has a constant temperature very far removed from that of the frigid. The source of this animal heat is in the tissues themselves, in which there is constantly going on an endless variety of solutions, combinations, and decompositions, by means of which is effected the metamorphosis of food into tissue, and of tissue into effete matter. But the amount of this heat-producing tissue-change varies continually; to prevent a corresponding increase of heat, we have the cutaneous perspiration, the evaporation of which causes the heat to become latent. So the temperature is continually regulated, and the almost unavarying standard maintained. Variation from the standard in disease is due to change in the one or the other, or of their relation to each other.

What is the advantage afforded by the use of the thermometer in disease?

In the first place, it shows whether or not pyrexia actually exists. This seems to be a small matter, but really it is often a valuable item of knowledge. Often diagnosis is very difficult, especially with children, who may present grave symptoms on slight causes. For instance, not long ago I saw a boy ten years of age who had been taken with convulsions, headache, vomiting, and loss of appetite; the bowels were regular, the pulse irritable, but not accelerated, and he lay quietly in bed, with a peculiar nervous look of the eyes. I found his temperature quite normal, and concluded that his convulsions were due to peripheral irritation, not to

central lesion. His convulsions were relieved by a full cathartic, and their cause was found to be eating hard Bologna sausage. There are many cases where the thermometer will give this negative help.

It has another advantage which belongs to it alone; it shows, *before other symptoms can*, the existence of disease and changes in the course of disease. The temperature of the body is more sensitive to diseased action than either the pulse or respiration. In intermittent fever the temperature begins to rise several hours before the exacerbation comes on, and after the disease has been reduced by treatment, and all other symptoms have disappeared, a periodic rise of temperature may be noted, showing that the cure is not yet perfect. In typhoid fever the daily rise and fall of temperature is very regular, and any marked deviation from this is always premonitory of something new in the course of the disease. A sudden reduction is said to show that hæmorrhage of the bowels has taken place, from sloughing of Peyer's patches, and several days may elapse before we get evidence of it from the stools. In pneumonia a sudden fall in temperature about the seventh day shows that convalescence has set in, though other symptoms may be as grave as ever. In all acute diseases a fall in temperature is, as a rule, a favorable sign.

The converse is in like manner true; rise of temperature, after it has once fallen, points to a relapse. We see this mainly in diseases, as erysipelas, which are liable to relapses. This rise will be found to take place before the premonitory chill, and will be a marked elevation above the regular rise and fall of the steady course of the disease.

There are two or three general rules of temperature in disease which may be spoken of here: First, there is, as a rule, evening exacerbation, the evening temperature being higher than the morning. In some acute diseases, however, the line of thermometric range is steadily upward for a few days, as if carried along by the impulse of the disease. But usually, even in the most acute diseases, there is a fall in the morning from the temperature of the preceding evening; we know that it is common for all sick people to feel better in the morning, and worse as the afternoon wears away.

There is another peculiar fact, familiar to all who use the instrument, though I have not seen it noted in the books. In some acute diseases the temperature falls *below* the normal standard of health as soon as the acute stage is passed. It has been noted below 95° under these circumstances. There are but few other conditions in which a temperature below that of health is noted. Dr. E. R. Hun found it so low as 94.5° in a case of Bright's disease, in which the œdema was excessive, a few hours before convulsions occurred, in which the patient shortly afterward died. The lowest temperatures have been found in shock. This, from

all causes, operations, fractures, burns, etc., seems to be attended with more or less depression of temperature. In the "Biennial Restrospect" of the New Sydenham Society, for 1871, Mr. Wagstaffe is recorded as having found, in a case of cut-throat which recovered, a depression to 91.2°, due probably to loss of blood. In a fatal case of fractured spine, a fall of 16.65° was noted. This gives us a hint that nervous influences have a part in maintaining and regulating animal heat.

The thermometer is a help in prognosis. The fact has been alluded to under a previous head, that it shows change in the course of disease before other symptoms can. Individual diseases have their peculiarities of thermometric range, and a marked variation from this indicates a grave or favorable termination. In typhoid fever an evening temperature of 103.5° shows a mild case; if it rises to 105°, dropping only to 104° in the morning, it is very grave. In pneumonia, 104° shows a severe attack, especially coming on early in its course. All diseases are not alike in regard to the height to which the thermometer may go within the bounds of safety. Cases of sunstroke have been recovered from in which the temperature of 110° has been reached; and Dr. Wilson Fox reports, in the London *Lancet*, the same height, in a case of rheumatism, which recovered. A few weeks ago I took the temperature for several days in a case of pneumonia, and finally found a morning temperature of 104.2°, pulse 112, and respiration 32. The evening temperature of the same day was 102.8°, which, being so decided a fall from morning to evening, was evidence that the crisis was past, although the pulse was accelerated to 120, and the respiration to 48. The fall here was not sufficient for the most practiced hand to detect. In a case of typhoid, looked upon as grave by the attending physician, I was enabled by the thermometer to give a favorable prognosis.

Can a diagnosis be made by the daily fluctuations of the thermometer? It would not be believed at first thought that any one would ever be driven to this means of diagnosis, but I have seen a case of gummy tumor of the brain, which in good hands was thought to be typhus fever, and this instrument would settle the question between them with certainty. Some diseases running a regular course have a typical range of temperature, so that one familiar with the subject, turning over the records of vital signs, can distinguish them one from another. In typhoid fever we see a good deal of regularity of the temperature line. Mounting gradually during the first week up above 100°, it holds there, with slight morning fall, till about the twenty-third day, when a considerable fall takes place, and we see the peculiarity of a nearly normal morning temperature and a high evening exacerbation, making long lines in the fever-curve. Typhus, again, is like typhoid, only the morning fall comes one week earlier. In the eruptive fevers gen-

erally the evening exacerbation is slight, the fever line, instead of being zigzag, running in a general straight line upward until a certain stage of the disease, and then downward in a likewise straight line. An intermittent of quotidian type shows a fever-line quite similar to that of the third week of typhoid; the tertian differs only in the skipping of one day. These are specimens of the typical thermometric ranges of diseases. It is evident how often diagnosis, that difficult branch of medicine, may be helped out by the thermometer.

Thermometry gives indications for treatment. An exceedingly high temperature is of itself dangerous to life from its effect on the nerve-centres, and should be treated by active antiphlogistics, regardless of the primary disease. This is illustrated by the cases reported by Wilson Fox, of rheumatism, in which the temperature rose to 110°, and which recovered under the use of cold douches and baths. A very forcible illustration of the value of the thermometer, as a help in treatment, is seen in pericarditis occurring in the course of rheumatism. Every case of this disease should be watched carefully with the thermometer, for by it we get premonitions of the occurrence of pericarditis, and are enabled to get the start of it. We are told, and very properly, to listen every day to the heart-sounds, but the fact is evident that, if you wait for cardiac murmurs, you are waiting simply till the serous surfaces are covered with exudation to produce them. I have seen one case in which by most careful examination no murmurs were heard, but the autopsy showed four ounces of bloody serum in the pericardium, and the surfaces covered with a fibrinous exudate presenting the "bread-and-butter" appearance. The serum separated the membranes and prevented friction-sounds. The pulse is sensitive to acute disease of the heart, but it is liable to extraneous disturbance. So, too, with the respiration. And, more than all, thermometric change occurs before anything else, and so is premonitory, in this and other diseases.

Febrile action is inconsistent with health, and an instrument which indicates and measures it, translates what is going on in the system. The fever is in many cases a safer guide than anything else. The pulse is disturbed by nervous excitement; exertion increases the respiration; the countenance gives valuable indications in sick children especially, but often it tells nothing; the history cannot always be gained clearly. But the temperature can always be taken, and has one advantage over most other means of diagnosis: it is uninfluenced by extraneous circumstances, and always tells the truth. Its language is to be learned by study and observation.

To sum up in a sentence the valuable points of the thermometer: it shows the existence of febrile exacerbation; it is premonitory of change in the course of a disease; it helps in diagnosis, prognosis, and treatment; and its indications are uninfluenced by any outside circumstance whatsoever.—*N. Y. Med. Jour.*

On the Physical Education and Training of Children. By H. W. Boone, M.D., San Francisco.

A very suggestive writer remarks, the first requisite of success in life is "to be a good animal;" and to be a nation of good animals is the first condition of national prosperity. The event of war often turns on the strength and hardiness of soldiers; and the contests of commerce are greatly decided by the bodily endurance of producers. Under the keen competition of life few of us can stand the application required without more or less injury. Thousands break down under the strain they are subjected to. This makes it specially important that children should be trained with a view to fit them physically, as well as mentally, to bear the wear and tear of the life they will have to encounter. Fortunately this matter is attracting much more attention than it did formerly, and we propose some statement of the views sanctioned by those who take the lead in the discussion of this subject.

The great attention which has been paid to the improvement of stock, has shown how all the qualities of strength, speed and endurance can surely be enhanced by attention to proper laws, and that a nobler and finer animal may be developed. The same rule applies to man, for it is a fact which no one will dispute, that man is subject to the same organic laws as the lower creatures.

First let us consider the subject of nutrition. While in a former age there was a tendency to general over-eating, there seems now to be a reaction, and more particularly among the educated classes it is to be feared that children do not get either the quantity or quality of food best suited to the wants of their growing organisms. While over-feeding and under-feeding are both bad, the latter is far the worst. The natural appetites are a very good guide, and it is only where they have been pampered that they fail to give proper indications. The child who has been fed on a liberal supply of wholesome, nutritious food, and always has enough, is not in danger of over-eating itself, while, if not treated to dainties, it will not clamor for things it has no idea of. Some of the things universally desired by children are sternly denied them by most parents, from mistaken notions and the force of traditions. All children are fond of sweets, and physiology teaches us what an important part sugar plays in the vital processes; together with fat, it is eventually oxydized, and there is an accompanying evolution of heat. The researches of Claude Bernard go to show that sugar is produced in very great quantity by the liver, and must have some important function to perform. When we see children with a strong desire for this kind of food, and note at the same time that they have usually a marked dislike to that food which gives out the greatest amount of heat during its oxidation, namely, fat, there is reason to think that excess of one compensates for defect of

the other; that the organism demands more sugar, because it cannot deal with so much fat.

Then children are fond of vegetable acids. Vegetable acids are good tonics, and ripe fruit aids digestion, and is especially valuable in regulating the bowels. There is no reason why children should not partake of both sweets and vegetable acids. On the contrary, within due bounds, the assimilation of both is advantageous and even necessary. And yet there is a general tendency to forbid their use to children, who consequently eat green fruit, or gorge themselves with sweets whenever they get a chance, and the illness following unwonted excesses is made the justification for a total exclusion of these articles from their dietary. With equal justice might it be argued that, as unaccustomed exertion produces depression and fatigue, all exercise is pernicious, and should be prohibited. Neither parents nor physicians can get up an arbitrary standard of feeding, and expect that all children will be benefited by it. The demand of the system for food varies with the temperature, the hygrometric condition of the air, with the electric state of the air; varies according to the exercise taken, the kind and quality of food eaten at the last meal, and the rapidity with which that meal was digested. How can we judge of all these things? Nature has provided every little mortal with the same means of sensation as we have, and our function should be neither to check nor force appetite, but to supply the proper and requisite nourishment. The opinion is often held, that children should have little animal food; "meat is not good for little boys and girls," is a very common answer to children. While the stomach of a very young child has not the muscular power to triturate this kind of food, the same objection does not tell against the use of it by those who are a little older. The opinion of science is exactly the opposite of the popular opinion on this question. Each day the body of a man undergoes a certain wear and tear—wear through muscular exertion, wear of the nervous system, wear of viscera in carrying on the functions of life, and this waste has to be renewed. Every day, by radiation his body loses heat, and as the temperature must be maintained, this loss must be compensated by the constant production of heat. The man has simply to maintain his equilibrium. The boy also wastes his tissues by action; he loses heat by radiation, and as his body exposes a greater surface in proportion to its mass than does that of an adult, and loses heat faster, he requires proportionally more calorific food than a grown person. Even if the boy had no more vital processes to carry on than the man, he needs, in proportion to his size, more nutriment. But, in addition, the boy has to grow, or in other words, make new tissue. After providing for all the other needs, the surplus nutriment is wanted to build up the frame, and only by this surplus is normal growth possible. Any growth taking

place in the absence of such surplus, causes a manifest prostration, consequent upon deficient repair.

Admitting, as we must, this relatively greater need for nutriment, the question is, how shall we meet it, by giving a large quantity of light food, or a smaller amount of concentrated food? Shall we meet the needs of the child by giving a sufficient quantity of food as good as that of adults, or tax the stomach with a larger quantity of inferior nutriment? The more we save from the labor of digestion, the more energy we leave for purposes of growth and action. The function of nutrition cannot proceed without a large supply of blood and nervous power, and the more nutritious and the better adapted the food is for assimilation, the less extra energy will be taken away from the general fund. Not only the size but the energy of a child depend in great measure on its food, and as that is stronger and more nourishing, so will he be more capable of exertion and endurance. The well known fact of the superior powers of the English navvy to perform hard labor, has long been recognized, but, as stated in Flint's Physiology, this has been shown to turn upon difference of diet and not of race. It has been proved by actual experience that continental navvies, fed in the same way as the English ones, are capable of the same amount of labor. The food of the child should contain fresh meat, vegetables and fruit, and the aim of supplying the nutritive needs of the growing economy by a highly nourishing and somewhat concentrated food, so prepared as to be easily digested, must be kept steadily in view.

Parents often make the mistake of allowing too much sameness in the food of their children. The natural repugnance to a long continuance of one kind of food is a normal incentive to that diversity which is a physiological need of the system. There is no one food, no matter how good, which supplies *all* the requirements of nutrition. The enjoyment of a change of diet is a nervous stimulus, which increases the action of the heart, and by propelling the blood with more vigor, assists digestion. This is practically so well known that every intelligent farmer understands the importance of varying the food of his cattle. Not only should there be variety from time to time, but at *each* meal. The experiments of Goss and Stark (Cyc. Anat. and Physiology), "afford the most decisive proof of the advantage, or rather the necessity of a mixture of substances in order to produce the compound which is the best adapted for the action of the stomach." It may perhaps be necessary to remark that children who have been accustomed to too low a diet, or one made up of innutritious substances in large amount, should not be put on a full regimen too suddenly, as they would suffer from the unaccustomed change. Neither should the concentration be carried too far; a mixed diet, vegetable and animal, will best fulfill all indications.

The strange antagonism to the guidance furnished by the sensations of children, again peeps out in the tendency to clothe them too lightly. The common notion of hardening is a melancholy error. The writer has seen death follow the well-meant attempts of parents to carry out this system, and has witnessed the terrible remorse of a father, who is firmly convinced that he was himself the cause of the early death of his only son. Those who survive carry the marks of their suffering either in growth or constitution. When the constitution is sound enough to stand it, exposure produces hardness, but at the expense of growth. The Shetland pony is tough but a dwarf, and the Laplander and Esquimaux are stunted. This is most easily explained. As we stated before, in order to compensate for the cooling by radiation which the body is ever undergoing, there is an oxidation of certain matters forming part of the food. In proportion as the loss of heat is great, must the quantity of these matters for oxidation be increased. All the energies being drawn upon to maintain the bodily temperature less material is left to build up the frame. This shows the true importance of clothing. Liebig says: "Our clothing is, in reference to the temperature of the body, merely an equivalent for a certain amount of food." By lessening the loss of heat, it lessens the amount of fuel needed to keep up that heat; and the stomach can do more in preparing other materials. Here again the farmers have found out that cattle are fattened on less food in a warm stall, than if the temperature is low, and govern themselves accordingly. In proportion to their smallness and the rapidity of their growth, do children suffer the greatest injury from cold. Quetelet has pointed out, "that in Belgium two infants die in January for one that dies in July." We have before stated that the child exposes more surface in proportion to its bulk than the man, and loses relatively more heat. Lehman says: "If the carbonic acid excreted by young children or animals is calculated for an equal bodily weight, it results that children produce nearly twice as much acid as adults." This is a fair indication of the amount of heat produced. And we see that in children the system has naturally to provide nearly double the proportion for generating heat. *Every ounce* of nourishment needlessly wasted to keep up the temperature, is stolen from the nourishment of the frame, and the child, with lowered vitality, is peculiarly liable to attacks of disease, and has not the power to rally from them. Dr. Combe gives us the true principle in the following words: "The rule is, therefore, not to dress in an invariable way in all cases, but to put on clothing in kind and quantity *sufficient, in the individual case, to protect the body effectually from an abiding sensation of cold, however slight.*" Fashion, which dresses children to please the eye, and changes the ordinary woolen dress for a white one to go out visiting, has, with the aid of the bleak winds of our coast, sent many a little

one to Heaven; and perhaps, in its eventualities, the fact that many more have survived, with impaired vigor and weakened forces, mental as well as bodily, to transmit in their turn these failings to their children, is still more sad to contemplate. The clothing of children should never be in such excess as to prove oppressive, but it should always be enough to prevent any general feeling of cold; it should be a good non-conductor, as woolen, strong enough to stand hard play, and its colors such as will not suffer from use and exposure.

Most persons are aware of the importance of bodily exercise for children, yet still they are not generally allowed full scope for the exercise of their energies in this direction. Especially in our cities children are kept at home; it is not genteel to play in the streets; and then they will soil their clothes! While boys manage to get a tolerable amount of exercise, our girls are fettered on every side. Girls must not be allowed to run wild; they will be as rude as boys, and grow up romps, say the defenders of maiden propriety. This fear is needless; the sportive activity of boys does not keep them from growing up into gentlemen. Why should it prevent girls from becoming ladies? Youths often show a ludicrous anxiety to avoid whatever is not manly. It is notorious that English girls are less forward, remain children longer than ours do, and they are certainly modest and reserved enough when they grow up; yet they habitually take an amount of exercise such as our girls never dream of, and are allowed to follow their natural inclinations for juvenile sports. The robust form of the young English lady who walks ten miles for pleasure, and does not suffer from exposure to the inclemency of the weather, is a commentary on the wisdom of their early training.

Gymnastics have been brought in to supplement that natural play which all children seek if allowed to. That this is better than nothing, we admit; but that it is an adequate substitute for play, we deny. These formal muscular actions are less varied than those accompanying juvenile sports, do not secure so equal a distribution of action to all parts of the body; this produces fatigue sooner, and leads to disproportionate development. Gymnastics are inferior in the *quantity* and also in the *quality* of muscular exertion which they secure. They are monotonous, while sports produce exhilaration which has a highly invigorating influence. Happiness is the most powerful of tonics; it tends alike to increase health when it exists, and to restore it when it has been lost.

A topic remains, perhaps demanding more consideration than any of the foregoing. Are the younger adults, and those verging upon maturity, among the educated classes, as strong and as well grown as their seniors? As measured by ancient armor, modern men are proved to be larger than ancient men. The tables of mortality show rather an increase in the duration of life; and yet

omitting the laboring classes, it will be found that in a majority of cases children do not reach the stature of their parents; and in massiveness, making due allowance for difference of age, there is the same inferiority. In health the contrast is even greater. Men of past generations, living riotously, could bear more than men of the present generation who live soberly. The annals of the bench and bar show that our recent ancestors were capable of prolonged application without injury, even to very old age. Yet paying more attention to the laws of health, we are continually breaking down under our work. What does this mean? Is it that the past over-feeding, of adults and juveniles, was less injurious than the under-feeding we have spoken of? Is deficient clothing to blame? Is discouragement of juvenile sports, in deference to a false refinement, the cause? Each of these probably has had a share in producing the evil; but another detrimental influence is at work, perhaps more potent than any of the others, except mental application.

The pressure of modern life continually increases the strain on old and young. In all professions and business pursuits, intense competition taxes the abilities and energies of every grown person. In order to fit the young to maintain their place under the competition, they are subjected to more severe discipline than before. Fathers, hard pressed by competitors, have to keep up a more expensive style of living; and, always at work, get little exercise, and few holidays. Their constitutions, broken by over application, they transmit to their children, and these comparatively feeble children, predisposed to break down, are required to go over a more extended course of study than their stronger predecessors. The disastrous effects of this cumulative transgression can be foretold, and every one sees the results. Cases of children or youths of either sex, more or less injured by undue study, frequently come under our notice. Here a child has to leave school; again, you find chronic congestion of the brain. One has a fever, or another is subject to fainting fits. These troubles become hereditary, and the children of parents who have been affected by such complaints, inherit an enfeebled brain, and are frequently unable to bear even a moderate amount of study without headache or vertigo. Indigestion, constipation, cold extremities, palpitation, impaired vision, checked growth, and lax tissue, are only a few of the evils entailed. If sufferings so conspicuous are frequent, how general must be lesser injuries. For one case where well marked injuries are traceable to overwork, there are many cases where the evil is unobstrusive and slowly accumulating, cases of derangement of function attributed to anything but the right cause, cases of retardation and arrest of bodily growth, where a tendency to consumption is induced; most common of all perhaps the predisposition to cerebral disease, which strikes down so many among our overworked upper classes.

When we see the frequent ailments of overworked professional and mercantile men, and how constitutions are undermined by these causes, think upon the sad effects which undue application must produce upon the undeveloped systems of children and young persons. The young are not competent to bear as much hardship or physical exertion, nor as much mental exertion as grown persons. If the full grown suffer so manifestly from the mental exertion required of them, what must be the damage which a mental exertion, often equally excessive, inflicts upon the young? Does not every professional man know how common slight curvature of the spine is among girls, and that this is frequently due to debility? Most parents seem to know the bad effects that follow infant precocity, yet it appears not to be perceived that throughout the whole time of growth a forced developing of intelligence will entail evil results. There is a natural order and a natural rate at which the faculties unfold. If these faculties are overtaxed, the result will be some form of evil. Let it never be forgotten how many demands there are upon the system of the child—repair of muscular tissue, repair of brain and nervous tissue, supply of heat, performance of digestion, growth; we can overstimulate the brain only at the expense of all the other functions, for the amount of vital energy which the body possesses is limited, it is impossible to get more than a certain amount of power. Says a distinguished writer, "It is a physiological law, first pointed out by M. Isidore St. Hiliare, and to which attention has been drawn by Mr. Lewes in his essay on *Dwarfs and Giants*, that there is an antagonism between *growth* and *development*. By growth, as used in this antithetical sense, is to be understood *increase of size;* by development, *increase of structure*, and the law is, that great activity in either of these processes involves retardation or arrest of the other." "Now this law is true, not only of the organism as a whole, but of each separate part. The abnormally rapid advance of any part in respect of structure involves premature arrest of its growth; and this happens with the organ of the mind as certainly as with any other organ. The brain, which, during early years, is relatively larger in mass but imperfect in structure, will, if required to perform its functions with undue activity, undergo a structural advance greater than is appropriate to the age; but the ultimate effect will be a falling short of the size and power that would else have been attained." "And this is a part cause—probably the chief cause—why precocious children, and youths who, up to a certain time, were carrying all before them, so often stop short and disappoint the high hopes of their parents." Prolonged exertion of the brain, then, and undue mental excitement in children and youths, will surely entail accumulating degeneracy of physique. The effects must be bad when a weakened stomach supplies the growing body with blood deficient in quantity and poor in quality,

while a weakened heart fails to propel this vitiated current at the normal rate. This system is a mistake, no matter how you regard it. If the mind is plied with facts faster than they can be grasped, they fall out of recollection. It makes study distasteful, and causes an aversion to all books and information in after life, thus defeating its own end.

Acquisition of knowledge is not everything; it is the organization of knowledge we want. Spencer remarks, "It is not the knowledge stored up as intellectual fat which is of value; but that which is turned into intellectual muscle." But its worst feature is that it destroys that physical vigor necessary to make intellectual training useful in the competition of life. Success depends more on energy than upon information by itself. Strong will, and that untiring activity which comes from abundant animal vigor, will gain a victory over competitors enfeebled by over study. Even supposing wordly success attained, the ill health accompanying this system will be a perpetual curse.

On women this system produces even worse results than on men. Men care little for learned women, but they do care for physical beauty, sense, and good spirits. Rosy cheeks, laughing eyes, and a fine figure, gentleness, and good breeding, will carry the day over all the refinements of school lore. As Mr. Zulliver says, "An over cute woman is no better nor a long tailed sheep. She'll fetch none the bigger price for that." Wisely and well it is so ordered, let us remember, that nature's chief end is the welfare of posterity, and so far as that is concerned, mere culture accompanied by a bad physique, is worthless, the descendants of such parents will die out in one or two generations. A good physique is worth preserving, even with poor mental endowments, for throughout future generations the mind may be developed. The system which would overload a girl's memory at the expense of her constitution, is fatal. Educate by all means, and as highly as is compatible with the general health and function of growth. Were the cramming system less pursued, and the system of self-education and reasoning more developed, a high grade of culture might be reached. The pupil would have sufficient interest in her studies to prosecute them when the restraints of tuition are removed, there would be something to fill the blank between the school room and married life. But so to educate as to produce physical degeneracy, is to defeat the very end for which all this toil, expense and solicitude are undergone. This high-pressure system applied to girls, often ruins their prospects for life; besides inflicting on them bad health, with its pains and disabilities, and consequent exacerbation of temper, it very often actually consigns them to celibacy.

Dr. Nathan Allen, of Lowell, brings one part of this subject very forcibly before us. He has studied the subject statistically, and has discovered that the average number of children to Ameri-

can families in New England is but 3 or 3½, against an average of 8 to families of a corresponding social scale a century ago. Population can hardly be kept up among the educated classes, unless an average of more than three children are born to a family. This, then, is the great problem of the future. Historians long debated the question, what was the reason for the decline of Greece and Rome. Prof. Seelye, the eloquent author of "Ecce Homo," has answered this question: "Rome died for want of men." The human harvest was bad. Dr. Allen has shown that, in all probability, Greece died from the same cause as Rome. Practitioners in New York and its vicinity state the same facts. The editor of the *N. Y. Medical Record*, very truly says: "A nation can do without high culture; it can do without extensive territory; it can do for a time without religion; it can, like China, do without a pure morality, *but human beings it must have.* Questions of science, of education, of government, of religion, of morality, etc., are trifles compared with this one great question of population. The time must come when physicians will evince a disposition to employ a portion of their leisure in studying the great laws of population."

The general conclusions to be derived from what we have stated are, that the ordinary treatment of children is often injudicious. Their food is deficient in quantity or quality, or both; they are not properly clothed; they do not have sufficient exercise, more particularly the girls, and the mind is overworked at the expense of the body. We tax the young organism too much, and give it too little. Through infancy, childhood and youth, growth is the requirement to which everything else should be subordinate. The mental and physical activities should be increased gradually only as the rate of growth diminishes. Herbert Spencer, to whose writings we are greatly indebted, remarks: "We do not yet sufficiently realize the truth that as, in this life of ours, the physical underlies the mental, the mental must not be developed at the expense of the physical." All neglect of the laws which conserve or promote health is *physical sin.* When the preservation of health is looked upon as one of our most important *duties to ourselves and others*, the physical training of the young will be understood better, and will receive that attention which it imperatively demands.—*Western Lancet.*

Dr. Ricord on Syphilis. (Meeting of the British Medical Association at Birmingham, August, 1872.)

Dr. Ricord, after acknowledging the reception which had been accorded him, said he had not prepared an address, as he had not come with the intention of speaking; but Mr. Acton had caught him and obliged him to speak, which was a trick. (Laughter.)

He had come to listen and to learn, but not to teach. However, he must say something, though there was no necessity for him to say much, as Mr. Acton had so nearly stated his views and his mode of treatment that there was very little for him to add. There was one great question in regard to syphilis, and it was this: could it be cured radically? In former times all venereal affections, no matter what, were considered as belonging to syphilis, and certainly there was then an immense number of radical cures by mercury or any other means. In this way swellings of the glands, soft chancres, even warts, and other things not belonging to syphilis, were easily enough cured, radically cured; and there were no after-consequences, no secondary symptoms. This explanation would account for the immensely large number of cases of (reputed) syphilis which used to be radically cured. But, since syphilis had been correctly diagnosed, the inquiry to which he had devoted a large part of his life was to see what belonged to syphilis, and what resembled it without belonging to it. There had been great differences in the results of treatment—so much so that a doubt, as Mr. Acton had said, had arisen whether real syphilis could be cured. That doubt as to the curability of syphilis was not recent; it was a doubt which old authors had expressed; and one particularly, with a curious name, which they would probably remember—"Mercurialis"—thought that now and then an armistice might probably be made with syphilis, but that there was no real cure. In fact, they frequently saw that a long time—months, years—after the symptoms had been treated, new symptoms appeared. And so the doubt whether syphilis could be radically cured, or whether the cure was only temporary, with a prospect of the symptoms returning, might still remain; he (Ricord), however, had established the law of the unicity of the diathesis of syphilis. The law of syphilis was the same as the law of small-pox, cow-pox, or measles. A man could have but one attack so long as the disease remained in the constitution—that was to say, according to his opinion a new attack could not take place while the system was still under the influence of the old diathesis. Well, it was exactly so with syphilis; as long as a patient was laboring under the diathesis of syphilis, another *infection* of syphilis could not occur—it was impossible. For instance, after indurated chancre, and the appearance of secondary symptoms, it was not possible for the patient to contract a new indurated chancre, with swelling of the glands, manifestation of skin disease, and so on. After one attack the patient could not have another infection as long as the influence of the first remained in his body; a second contagion could not take possession of the system at the same time. If, perchance, something of the kind took place, the symptoms would not follow the regular evolution. So, when a patient had constitutional syphilis, if a new chancre appeared to be hardened they would not find the glands swell, or

the early manifestation of skin disease appear; and so of other symptoms. Superficial ulceration might take place, just as a spurious form of vaccination might arise on one who was still under the vaccine influence; but it was not a true case, it was not attended with the sequelæ. But if the constitutional disease were cured, if the syphilitic disposition were completely eradicated, then the patient would be able to contract a fresh indurated chancre, with all the subsequent symptoms. If this were the case—and he had observed it with great care, his experience dating back forty years—it proved that syphilis could be cured; and if syphilis could be eradicated, to ascertain whether a patient was cured or not when all the symptoms had disappeared there would be nothing else to do (though he knew that could not be done) but to try inoculation from an indurated chancre. If vaccination did not take, they were sure the vaccine disposition continued; if it did not continue, vaccination could take effect. In regard to syphilis, the proof had not been carried to this extent; but he had been able to observe that as long as the syphilitic influence continued, a patient could not contract an indurated chancre anew, and that, consequently, if cured, a new infection might take place. This was a great point gained in science, and it proved what he had said, that syphilis could be radically cured. Now, as to the treatment of the disease. As he had told them, Mr. Acton's ideas were completely his ideas, explaining his manner of treatment and his practice. He would first speak of the treatment of the first stage—that was to say, the primary sore. As soon as he had ascertained that there was a hardened chancre, with a swelling of the glands—not inflammatory, because the glands in this case never suppurated—he immediately instituted the mercurial treatment. There was one point on which there was some difference of opinion: many believed that it was impossible to prevent the accession of the secondary symptoms, the first manifestation of constitutional disease; many thought that no matter what treatment was employed the sequelæ would appear. Well, he had ascertained that if the treatment were soon begun and well carried through, the bursting out of the first secondary symptoms, the roseola, the swelling of the glands of the neck, etc., might be prevented. If this were not frequently the case it was because the treatment was resorted to too late, when the disease had had time to take root, and secondary symptoms were about to show themselves. In such cases it was not astonishing that secondary symptoms should appear, and the treatment ought not to be blamed; if the treatment were steadily continued they soon disappeared. But if the treatment were begun early, the observation of forty years gave him the assurance that secondary symptoms would not appear. When secondary symptoms had appeared, the best treatment was, as Mr. Acton had said, mercury. If they wished for a perfect cure, this treatment must be continued. In general it was not per-

sisted in long enough; it was dropped as soon as the symptoms disappeared, or a short time after, and then it was not astonishing to see them reappear. But if the treatment were continued five or six months, having regard at the same time to sustaining the constitution in general, relapses would be found to be infrequent. He observed very few cases of relapse, and there would not be many when the treatment was well kept up—when the patient had patience enough, and the physician sufficient courage. After six months of that treatment and no symptoms reappearing, then the treatment with iodine must be begun, and continued for five or six months more. When a patient went to him, he said, "You will have a year's treatment—do you consent to that?" "Yes." "Very well; we will go on. If not, good bye." There were cases in which syphilis occurred in a healthy person—the only disease was syphilis. Then treatment was very easy—the case was a simple one; they had but one enemy to fight—all went on regularly. But, unhappily, in many instances syphilis was not alone; there was something else—scrofula, skin disease, scurvy, low constitution, poorness of the blood. They must understand that such complications as these altered the case; the treatment did not act so powerfully as it would do in the first case, as many of these complications were aggravated by the treatment. For instance, syphilis and scurvy might coexist—and the characteristic of the latter was poorness of the blood, while that of the former was a plastic condition of the blood. Here, therefore, was a counteracting influence to the treatment for syphilis. Now one thing must be known. Perhaps he was speaking too long? (No; go on.) Well, in many instances syphilis became the secondary consideration, and they must begin with the constitution of the patient, as debility was the disease that required first treatment. They must attack the strongest enemy first. Syphilis was sometimes quiet, and stopped and waited till they came to it. So, when they had improved the constitution, they might commence with the treatment, and they must begin by treating the constitutional complication. The best treatment was the proto-ioduret of mercury. The stomach bore this well in general. Sometimes it gave rise to a little diarrhœa, which was an easy thing to moderate; but when the stomach was not tolerant of the remedy, one capital treatment was that which Mr. Acton had told them he had confidence in—namely, rubbing-in. If this were not an unpleasant and disagreeable operation, certainly it would be in general about the best; he himself should prefer it. In rubbing-in, the action of the remedy was powerful and quick, and the stomach was not at all troubled with it. If it were not so disagreeable, and were a thing that could be done without being noticed, he should give it the preference. However, there were cases in which the skin was otherwise affected, in which there was a skin disease, and then friction could not be used. In a case of complication of syphilis and

herpes rubbing-in could not be resorted to. In general, patients bore the iodide of potassium well, and in large doses. For his own part he frequently employed forty, sixty, eighty, even a hundred grains a day, and more. They must bear in mind that if they gave too small doses to some patients they would have no result; it was a remedy that passed through the body with great rapidity. He had had great experience of it, and he had found that in half an hour it had passed away in the urine. Iodide of potassium was a sort of broom of the blood. So they saw that the methodical treatment was this: mercury, iodide of potassium. But only one for the first stage, and only the other for the later stage of syphilis. No, the rule was absolute that as long as there were secondary symptoms well marked, mercury must be given; when there was a mixture of secondary and tertiary symptoms, mercury and iodide; for tertiary symptoms, iodide. To treat some patients with iodide would not advance them in any way. Why? Because there was frequently in the constitution, in the blood, something of the second stage, something that required the mercurial treatment. This might not show itself, but when iodide of potassium ceased to do good, the disease remaining stationary, let them go back to mercury again, and they would have a splendid result where they had thought there was no further possibility of curing the patient. This was what Mr. Acton had said, and he was completely and absolutely of Mr. Acton's opinion. But there was another thing. When syphilis had lasted for a long time, and had had a great effect on the constitution, it in some way disappeared, and left the patient with a complication existing that was not existing before. Sometimes a long course of treatment brought on a new disease—wasting of the constitution, poorness of blood. They must then stop all the specific treatment, and, applying themselves to the principal symptom, restore the constitution by preparations of iron, bark, tonics, and proper food, so bringing the patient back to the possibility of undergoing anew a regular methodical treatment, either by mercury or iodide, or a combination of these two remedies. In former times, when a person was thought to be syphilitic, physicians seemed unable to entertain any other idea than that of syphilis, and acted exclusively against a specific disease, neglected everything else, and in that way they experienced all the bad effects and accidental symptoms which a bad administration of the symptoms would produce. Mr. Acton had spoken of the use of bromide of potassium. His views were exactly the same as Mr. Acton's with respect to the use of the remedies at different stages, the necessity of having regard to the complications that might exist, and of dropping the treatment for awhile till the constitution was restored. This was regular and methodical, and his own manner of practice. But now, was bromide of potassium an anti-syphilitic remedy? He did not be-

lieve that it was. He might be mistaken; but he had experimented with it in syphilitic symptoms, and without any apparent result. But it was a splendid remedy in complications of syphilis. In some cases of symptoms referable to the nervous centres, bromide of potassium was an adjunct, and came to the help of mercury or the treatment by iodine. In some cases of brain disease with syphilis, and of disease of the spine or epilepsy, bromide of potassium did wonders. So that they would see it was a remedy to be applied in nervous complications that might occur, but they must not depend on it as an anti-syphilitic remedy. Now, there were symptoms following syphilis which were not syphilitic, and these must not be treated with mercury or iodide of potassium. For instance, there might be necrosis. Well, they could not bring a dead bone back to life, no matter what quantity of mercury or iodide of potassium they might give. A physician must know these things, and he (M. Ricord) ought almost to apologize for bringing them forward. It should be observed that specific remedies did not always act specifically. Certainly, there was no specific effect without a specific cause, but specific causes did not always act specifically. So there were some effects of syphilis, such as disease of the bones, that would afterwards act as a common irritant. In syphilis there might be an ulcerated bone in the nose or mouth, bringing on suppuration; mercury or potassium would not remove that, but let the diseased bone be removed, and the patient was frequently cured. They must take note of all these conditions—the nature of syphilis, the manner in which it conducted itself, its action on the constitution. Let them particularly take note that the general law of syphilis was the same as the general law of small-pox, vaccine, and measles. If they were sure of this from what he had said and from their own experience, then they might be sure that syphilis could be perfectly, radically cured. They could tell their patients that, and give them courage and hope. If the patient had courage to go through with the treatment, and the physician had courage enough to stick to it, the patient might be radically cured. He thanked them for the reception they had given him; it reminded him a little of his hospital in Paris.

A question was asked whether Dr. Ricord was a believer in salivation.

Dr. Ricord replied—No, surely not. Salivation was an accident following the treatment, and it must be avoided as much as possible. There was but one case in which he approved of salivation, and that was in disease of the eye—iritis. When this occurred, and salivation was brought on, the inflammation of the iris subsided.

Dr. Gross asked whether the soft chancre was capable of contaminating the constitution.

Dr. Ricord said his opinion was that a soft chancre, when ac-

curately diagnosed, never gave rise to constitutional disease. This was a law as absolute as possible. But they must be careful, or errors of diagnosis might be made. It was not always easy to establish the difference between soft and hard chancre, but when the diagnosis was certain, they might be sure they would not have any constitutional disease after the soft chancre. On the contrary, even as long as six months after hard chancre secondary symptoms would appear. This was one of the most clearly established facts in practice. But the hardness of the chancre was not always well marked (*bien formulee*); it might be very superficial in those varieties that were attended with excoriation. When there was a something like parchment at the base, a chancre was very easily taken to be soft, but was not so; and he had had cases sent to him as instances of soft chancre which had been followed by secondary symptoms, but which were well characterized by the parchment-like base. However, there was a symptom of more value than the parchment base, a symptom that was one of the most important witnesses to constitutional affection, and that was the non-inflammation of the glands—they were cold and dull. In general several of them became enlarged; it was very seldom that only one was found to swell after hardened chancre; and not only were the glands swollen but the enlargement frequently occurred on both sides, in both groins. The enlargement of the glands was of much value as a characteristic of hardened chancre. The enlarged glands appeared very early, even during the first fortnight of the existence of the sore. With the soft chancre the glands did not always swell; in a great many cases there was no swelling. They would never find a real hard chancre without swelling of the glands; and they would also find many cases of soft chancre with swelling, these cases depending upon surgeons confounding the hard chancre with thickening dependent upon inflammatory infiltration of the tissue immediately around the sore. But if the glands should swell after soft chancre, it was probable that suppuration would come on. With hard chancre there was no inflammation and no suppuration. The older writers directed their efforts to cause an indurated sore to suppurate, in the belief arising from the practical observation that when a bubo suppurated there was no constitutional disease, and therefore they were under the belief that the poison was thrown out of the body. In their quaint way of putting the fact, "they did not like to shut up the wolf within the fold." But they could not bring on specific suppuration in the case of indurated glands; it was impossible. He had tried all means of doing it, and could not succeed in the cases of specific suppuration. In the instance of soft chancre what had they to do—await the occurrence of suppuration, which might either be attended by simply inflammatory or specific bubo? With the soft chancre the inflammatory bubo appeared sometimes

two, three, or four weeks after the occurrence of the chancre, and it had the characteristic pus of the soft chancre. There was such a difference between hard and soft chancre that it was difficult to make a mistake. When a patient consulted him (M. Ricord) suffering from soft chancre, he said to him, "Be quiet; you may have a bubo; that will suppurate, but your constitution will be unaffected; you will not be liable to secondary symptoms." With a hard chancre he could predict indurated glands, attended by constitutional symptoms, within six months, provided proper treatment were not followed. He would add, that when it was decided that the case was one of hard chancre or soft chancre, the treatment was very simple. When there was a doubt as to the nature of the chancre, he waited till some characteristic symptom arose. But there were cases in which the existence of a soft chancre did not prevent a patient from contracting a hard chancre. The patient might have the two species at the same time, contracted from different sources. The two species, hard and soft chancres, do not depend upon the difference in the ground, but on a difference in the seed (*contagium*). So that the new comer who had relations with a woman suffering from the two species could take his choice. If the patient had a true indurated chancre and well diagnosed secondary symptoms, he might catch the soft chancre as often as he pleased, and it would be unattended with specific constitutional disturbance.*

Mr. Lord (London) asked Dr. Ricord what was his experience of municipal interference in respect to contagious diseases in Paris, and what was his opinion as to the effect of such interference in promoting immorality and degrading the character.

Dr. Ricord said it was surely a good thing to have the women examined. It made the disease less frequent—no doubt of it. From what had already been done in France he saw that the same practice would be beneficial here. It was already a great thing that English sailors no longer brought the disease into France; the French would take care it did not return back into England, and that was a free exchange.

The Chairman announced that the Council had resolved to make Dr. Ricord, Dr. Demarquay, and Professor Gross honorary members of the Association.—*London Lancet.*

* Dr. Ricord has established a law on which he sets great value, and for the verification of which he thinks the present and future generations will owe him a debt of gratitude. It is that of having discovered and described the UNICITY of the syphilitic diathesis—in fact, subjecting syphilis to the LAW which is common to small-pox, cow-pox, measles, etc.—ED. L.

Dropsy of the Amnios—Operation, Recovery. By J. W. B. Reynolds, M.D., Sacramento.

On the third of July I was requested to visit Mrs. S., twenty miles distant. She was about thirty-six years of age, of small stature, and the mother of seven children. On inquiry I found she was about five months advanced in pregnancy, but the enlargement of the abdomen was as great as common at the end of seven months. On percussion I found the flat sound of water, but I was at a loss to determine whether the fluid was in an ovarian sac, intraperitoneal, or in the uterus. As she had no appetite, the liver torpid, and kidneys deficient in their secretion, I thought it best to put her on a course of alteratives and diuretics, hoping the improvement in the general health anticipated from this course might arrest the abnormal secretion and keep it in check till the end of her gestation. The general health was much improved by the remedies used, but on the eleventh I was called again to visit her. I now diagnosed dropsy of the amnios. She had enlarged rapidly since my last visit; she was unable to sleep, and was suffering a great deal from pain in the right side and between the shoulders. By means of hot fomentations, painting the abdomen with iodine, and anodynes internally, she passed the time in rather less suffering till the evening of the twenty-first, when I was again sent for. After riding nearly all night to get to the residence of my patient, I found her sitting bolt upright in the bed, in which position she had been for five days and nights—in fact, she could not even lie down to sleep, saying she felt as though she would suffocate whenever she attempted it. She was greatly emaciated, and the abdomen was so full and tense that the respiration seemed almost suspended, and there seemed little hope of the poor woman being able to stand it many more hours without some relief. I had informed the husband several days previously what would probably have to be done, and as she had been made aware of it, she was urgent for the operation.

Accordingly I proceeded at once to attempt the dilatation of the os uteri by the gradual, but pretty forcible, insertion of the index finger. Then applying the extract of belladonna pretty freely within the cervical canal—applying a tampon and administering the fluid extract of ergot twice—about two-thirds of a drachm at a time, one hour apart, I had the pleasure of finding, upon examination, that the os was dilated as large as a quarter of a dollar. By encouraging her now with the hope of almost immediate relief, I prevailed on her to lie down until I could introduce the instrument to cut the membranes. I used a blunt-pointed pair of scissors, curved on the flat, guiding them through the vagina and into the uterus on my finger. They answered my purpose admirably, and I found no difficulty in cutting the membrane which

contained the fluid. There was upwards of thirty-two pints of fluid, resembling the liquor amnii, discharged. My patient was asleep before it was half discharged; and after sleeping comfortably for an hour, labor pains commenced, and in about one hour more she gave birth to the child, which was nearly six months grown. It gave a slight cry, a gasp or two, and expired. The secundines were easily removed. But in removing the placenta, I felt a tumor nearly as large as the fist attached to it. When I removed it where I could examine it, I found the tumor filled with semi-coagulated blood, about four ounces in quantity. It was enclosed within a membranous sac which appeared to be formed by a portion of that part of the amnios which is reflected over the internal face of the placenta. Whether this unnatural formation had anything to do with the abnormal secretion, I am unable to say. Indeed, it may have been of recent formation.

Cazeaux, in his *Midwifery and Diseases of Pregnancy*, mentions a case from Duclos, of which this was an almost exact counterpart; the rapid emaciation, the great distension of the womb, producing such enormous enlargement of the abdomen, that there was absolutely no room for the play of the diaphragm. She could not even bear any support, saying that the least compression on the back or chest stopped her breathing. So the poor woman sat for five days and nights without support, and almost without sleep or food. As Cazeaux says, diuretics had no effect on the progress of the disease. I had no suitable means to puncture the membranes, and I thought it best to have the os well dilated before operating. Cazeaux says, "If the neck were obliterated, it might become necessary to make a puncture by the vagina near the uterine orifice," and that Camper and Scarpa even advise puncturing between the umbilicus and pubes. I must confess that I cannot conceive of conditions which would render such a proceeding necessary. If he had said, "if the os were entirely obliterated," I could understand the necessity of making a new opening; but where the neck is obliterated, as in the last months of pregnancy, I think the os would only be the more easily dilated. And my success in this case gives me confidence to believe that I could succeed in almost any other without puncturing, and unless the os were completely closed by firm adhesion. This lady had passed an unusual quantity of liquor amnii at her last confinement two years previously, but the quantity had never been so great as to cause any inconvenience during gestation. She recovered her health rapidly after the operation.—*Pacific M. & S. Jour.*

TABULAR STATEMENT of 22866 Vaccinations and Re-Vaccinations at different periods of life, in which the results were carefully observed and recorded by Physicians of the Relief and Aid Society, during the winter of 1871-2. The number of cases of Small-Pox occurring after successful and unsuccessful Vaccinations are also shown.

SUCCESSFUL VACCINATIONS.

NATIONALITY.	Under 5 yrs.			Small-Pox.			5 to 10 yrs.			Small-Pox.			10 to 20 yrs.			Small-Pox.			20 yrs. & upward.			Small-Pox.		
	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
American	250	59	6	3	2	....	61	114	6	2	1	....	50	167	34	3	6	1	53	236	102	7	5	2
German	399	148	18	3	....	2	95	353	26	6	3	1	51	434	82	2	6	1	77	1144	304	18	45	21
Irish	1007	282	47	7	1	4	233	691	119	2	4	4	131	840	266	7	17	12	239	1381	322	45	147	38
German-American	386	191	13	4	....	....	63	366	29	2	16	1	40	377	41	10	30	2	3	26	5	1	1	1
Irish-American	225	153	2	1	2	....	42	306	22	1	9	....	14	395	66	5	26	4	5	39	11	4	9	2
Colored-American	54	4	2	....	....	....	26	15	....	....	....	....	8	23	3	....	1	....	24	55	9	6	....	1
Swedish	158	31	5	3	....	....	67	79	12	1	2	....	31	106	20	4	2	1	55	202	87	9	11	2
Norwegian	139	19	3	....	....	....	54	80	10	1	....	....	33	90	21	1	....	....	41	132	82	2	7	4
English	98	20	1	1	....	....	28	53	1	....	....	....	12	64	17	....	3	1	25	87	30	9	13	2
French	41	9	....	4	....	....	8	24	2	....	....	....	1	22	7	....	2	....	8	26	8	2	1	....
Scotch	25	12	....	....	....	....	15	18	3	....	....	....	5	23	6	....	1	....	6	32	7	2	2	....
Scandinavian	31	29	....	....	....	....	....	25	5	....	....	....	1	31	2	....	....	....	....	55	6	....	1	....
Italian	38	10	....	....	....	....	6	24	....	....	....	....	3	36	3	....	....	....	7	42	6	2	3	1
Canadian	16	9	2	....	1	....	6	23	3	....	....	....	....	29	9	....	....	....	1	35	9	....	3	....
Bohemian	22	7	....	....	....	....	6	31	....	....	....	....	....	17	1	....	....	....	4	50	2	....	....	....
Prussian	7	1	....	....	....	....	2	2	3	....	....	....	1	7	1	....	....	....	5	5	....	....	2	....
Danish	11	....	....	....	....	....	4	3	1	....	....	....	4	3	....	....	....	....	8	3	5	....	....	....
Belgian	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Holland	5	3	1	....	....	....	1	7	....	....	....	....	....	4	1	....	....	....	....	8	2	....	....	....
Denmark	2	3	....	....	....	....	....	2	....	....	....	....	....	1	....	....	....	....	....	27	1	....	1	....
Russian	2	2	12	....	....	....	12	....	8	....	....	....	8	4	4	....	....	....	24	4	22	....	....	....
Jews	7	1	....	....	....	....	1	3	....	....	....	....	1	4	1	....	....	....	1	8	....	....	....	....
Miscellaneous	24	6	5	....	....	....	2	17	....	....	....	....	3	20	1	....	....	....	6	27	3	....	4	....
Totals	2948	999	117	26	6	6	732	2236	250	15	37	6	397	2697	586	32	94	22	502	3634	1024	107	355	74

Total successful Vaccination and Re-Vaccination, ... 16202
Total Small-Pox, after successful Vaccination and Re-Vaccination, ... 780

In addition to the above, we have records of 4197 cases which have been excluded, on the ground of incompleteness, from the general statement, and which, if added, would show a total of 27063 cases.

Among the Swedish, in one case, there were three good scars on each arm; still the patient had Small-Pox very bad. (Dr. Strong's Collection.)
Among the English, two cases had Small-Pox, and were afterward successfully Vaccinated. (Dr. Clark's Collection.)
Among the Norwegian, five cases of Small-Pox after successful Vaccination, and one case fatal. (Dr. Clark's Collection.)
Among the Irish, seven cases successfully Vaccinated after they had had Small-Pox, and twelve cases had Small-Pox after successful Vaccination.
Among the American, one case successfully Vaccinated after it had had Small-Pox. (Dr. Clark's Collection.)
Among the Irish, one case of Small-Pox after successful Vaccination, and twenty-one before Vaccination. (H. J. Burlingame.)
Among the German, one case of Small-Pox after 2d unsuccessful Vac., and five before Vac., and three cases after successful Vac. (H. J. Burlingame.)
Among the Swedish, six cases of Small-Pox before Vaccination. (H. J. Burlingame.)
Among the Norwegian, two cases of Small-Pox before successful Vaccination. (H. J. Burlingame.)

UNSUCCESSFUL VACCINATIONS.

NATIONALITY.	Under 5 yrs.			Small-Pox.			5 to 10 yrs.			Small-Pox.			10 to 20 yrs.			Small-Pox.			20 yrs. & upward.			Small-Pox.		
	1st	2d	3d	1st	2d	3d	1st	2d	2d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d	1st	2d	3d
American	22	37	1	4	4	....	10	56	8	4	....	....	11	59	28	5	....	2	13	118	90	11	11	16
German	40	96	10	....	....	1	18	152	33	6	2	3	5	212	63	....	8	2	30	844	256	18	82	16
Irish	57	145	20	1	4	2	35	286	56	11	3	2	26	316	95	15	9	....	67	749	198	53	127	16
German-American	53	75	2	2	2	....	18	197	17	5	18	....	15	285	33	6	35	1	1	37	9	1	6	2
Irish-American	21	41	3	2	1	....	3	71	10	....	9	....	4	151	23	3	15	1	....	15	7	....	4	....
Colored-American	7	18	....	4	6	....	2	13	2	1	....	1	....	20	11	....	....	....	14	40	24	12	4	....
Swedish	9	26	2	....	....	....	1	39	6	....	1	1	5	47	20	4	5	....	13	103	31	9	11	1
Norwegian	11	8	1	....	....	....	4	13	2	....	....	....	2	14	9	1	....	....	1	43	22	....	2	....
English	7	5	....	....	....	....	1	17	2	....	1	....	2	28	6	1	....	....	5	29	25	1	8	1
French	....	....	1	....	....	....	....	1	....	....	....	....	....	8	1	....	....	....	1	18	9	....	3	1
Scotch	4	6	....	....	....	....	1	9	1	1	....	....	....	5	3	....	1	....	5	25	12	4	4	1
Scandinavian	3	6	1	....	....	....	1	9	2	....	1	....	....	37	3	....	....	3	....	78	8	....	6	....
Italian	2	9	....	....	....	....	....	8	....	....	....	....	2	15	4	....	2	....	3	22	9	1	4	2
Canadian	3	2	....	1	1	....	....	3	2	....	....	....	....	....	1	....	....	....	....	6	5	....	1	....
Bohemian	3	11	....	....	....	....	1	9	1	....	....	....	....	9	7	....	....	....	....	28	3	....	....	....
Prussian	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....
Danish	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	1	....	....	....
Belgian	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....
Holland	....	....	....	....	....	....	....	3	2	....	....	....	....	1	1	....	....	....	....	3	....	....	....	....
Denmark	....	3	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	2	....	....	....	....
Russian	10	8	....	1	....	2	2	12	6	....	4	2	4	10	12	....	2	4	2	20	4	....	6	2
Jews	....	2	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	2	3	....	1	....	....
Miscellaneous	1	4	5	....	....	....	1	8	....	....	....	....	....	9	2	....	1	....	1	17	4	1	1	....
Totals	253	503	47	15	18	5	98	907	150	28	39	9	76	1226	324	35	78	13	160	2201	719	112	280	58

Total unsuccesful Vaccination and Re-Vaccination, ... 6664
Total Small Pox after unsuccesful Vaccination and Re-Vaccination, ... 690

Among the Americans, one adult had been several times unsuccessfully Vaccinated, and had Small-Pox. Another case under 5 years was successfully Vaccinated, and at same time had Small-Pox. (Dr. Chas. White's Collection.)

Among the Scandinavians, two successful Vaccinations and Small-Pox occurred in one individual. (Dr. Chas. White's Collection.)

Among the English, one case badly pitted, and second Vaccination successful. (Dr. Chas. White's Collection.)

Among the German-American, one case Small-Pox at 7 years, but a successful Vaccination occurred afterward between 10 and 20 years. (Dr. Chas. White's Collection.)

One case had Small-Pox twice. (Dr. Leonard's Collection.)

Total number of cases of severe Small-Pox, 55. General average time occurring after a successful Vaccination—1st Vaccination, 7 years; 2d Vaccination, 11 5-6 years; 3d Vaccination, 15 3-4 years. (Dr. Bockin's Collection.)

Editors' Book Table.

[NOTE. — All works reviewed in the columns of the CHICAGO MEDICAL JOURNAL may be found in the extensive stock of W. B. KEEN, COOKE & CO., whose catalogue of Medical Books will be sent to any address upon request.]

BOOKS RECEIVED.

Diagrams of the Nerves of the Human Body; Exhibiting their Origin, Divisions and Connections, with their Distribution to the Various Regions of the Cutaneous Surface, and to all the Muscles. By WILLIAM HENRY FLOWER, F.R.C.S., Asst. Surgeon to, and Demonstrator of Anatomy at the Middlesex Hospital. Edited, with Additions, by WILLIAM W. KEEN, M.D., Lecturer on Anatomy and Operative Surgery in the Philadelphia School of Anatomy, etc., etc. Philadelphia: Turner Hamilton, Bookseller & Stationer, 106 S. Tenth St. 1872. 4to.

Dr. Keen has performed a valuable service in reproducing these very excellent diagrams so as to render them accessible to American medical students. We take pleasure in recommending the diagrams to all who desire a competent acquaintance with the anatomical distribution, etc., of the nervous system.

Clinical Lectures on Diseases Peculiar to Women. By LOMBE ATTHILL, M.D., Univ. Dub., Fellow and Examiner in Midwifery, King and Queen's College of Physicians; Vice President Dublin Obstetrical Society, etc., etc. Second Edition, Revised and Enlarged, with Six Lithograph Plates and Wood Cut Illustrations. Philadelphia: Lindsay & Blakiston. 1873. Demy Octavo. Pp. 241. $2.25.

A compact practical manual, which we can conscientiously recommend both to advanced students and general practitioners. It is clear and yet concise, thoroughly scientific and yet practical, as we ought to expect from the clinical teacher. Fortunately, it treats mainly of the more common forms of uterine diseases and their management—exactly what the practitioner most needs. Numerous illustrative cases are cited.

Questions in Surgery. By WM. WARREN GREAVE, M.D., Prof. of Surgery in the Medical School of Maine, etc., etc. Portland: Printed by B. Thurston & Co. 1872.

On the Treatment of Diseases of the Skin: with an Analysis of Eleven Thousand Consecutive Cases. By Dr. McCall Anderson, Professor of Practice of Medicine in Anderson's University; Physician to the Dispensary for Skin Diseases, and to the Cutaneous Wards of the University Hospital, etc., Glasgow. London: McMillan & Co. 1872. Pp. 180. $1.75.

A Practical Treatise on Urinary and Renal Diseases, Including Urinary Deposits. Illustrated by Numerous Cases and Engravings. By William Roberts, M.D., F.R.C.P., London, etc., etc. Second American from the Second Revised and considerably Enlarged London Edition. Philadelphia: Henry C. Lea. 1872. Pp. 616.

The previous edition was noticed in the Medical Journal. The general plan remains unaltered, but all has been carefully revised and important additions made. Several of the old engravings have been replaced by better ones, and twenty new ones have been added. Two valuable articles have been added, on suppression of urine and paroxysmal hæmatinuria.

A Treatise on Diseases of the Nervous System. By William A. Hammond, M.D., Prof. Diseases of the Mind and Nervous System and Clinical Medicine, etc., Bellevue Hospital Medical College; Physician-in-Chief to the New York State Hospital for Diseases of the Nervous System, etc. Forty-eight Illustrations. Third Ed., with Additions and Corrections. ("Est quoddam prodire tenus, si non datur ultra."—*Hor.*) New York: D. Appleton & Co., 549 & 551 Broadway. 1872. Pp. 754.

The Pathology, Diagnosis and Treatment of Diseases of Women, Including the Diagnosis of Pregnancy. By Graily Hewitt, M.D., London, F.R.C.P., Prof. of Midwifery and Diseases of Women, University College, etc., etc. Second American, from the Third London Edition, Revised and Enlarged; with One Hundred and Thirty-two Illustrations. Philadelphia: Lindsay & Blakiston. 1872. Pp. 751. Leather, $6.00; Cloth, $5.00.

A System of Oral Surgery. Being a Consideration of the Diseases and Surgery of the Mouth, Jaws, and Associate Parts. By James E. Garretson, M.D., D.D.S., Aural Surgeon to the Medical Department of the University of Pennsylvania; Author of Diseases and Surgery of the Mouth, Jaws, and Associate Parts, etc., etc. Illustrated with numerous Steel Plates and Wood Cuts. Philadelphia: J. B. Lippincott & Co. 1873. Pp. 1091.

Small-Pox: The Predisposing Conditions and their Preventives, with a Scientific Exposition of Vaccination. By Dr. CARL BOTH. Second Edition. Boston: Alexander Moon; Lee & Shepard, Boston and New York; Trubner & Co., Paternoster Road, London. 1872. Pp. 82. Stitched, 50 cts.; Cloth, 75 cts.

The Physician's Hand-Book for 1873. By WILLIAM ELMER, M.D., and ALBERT D. ELMER, M.D. New York: W. A. Townsend, Publisher. 1873.

The Microscope and Microscopical Technology: a Text Book for Physicians and Students. By Dr. HEINRICH FREY, Professor of Medicine in Zurich, Switzerland. Translated from the German and Edited by GEORGE R. CUTTER, M.D., Clinical Assistant to the New York Eye and Ear Infirmary. Illustrated by 343 Engravings on Wood; and Containing the Price Lists of the Principal Microscope Makers of Europe and America. From the Fourth and last German Edition. New York: William Wood & Co., 27 Great Jones Street. 1872. Pp. 658. Cloth, $6.00.

A complete exposition of the subject. Thoroughly indispensable to the practical microscopist.

Editorial.

"Out of the fullness of the heart the mouth speaketh"—and thus do we wish our readers a "Happy New Year." While thanking them for the liberal support, both intellectual and material, with which they have sustained the JOURNAL throughout the past year, we desire to give them the assurance that the JOURNAL, at the beginning of this its 30th year of life, is only just reaching its period of full maturity and vigor, and is to-day in a better position to repay to its readers all that they may do in its behalf than ever before.

The past year was commenced in ashes and desolation, but with energy and determination: these, as usual, have triumphed; out of the ashes have grown laurels, out of the desolation have come hosts of friends.

The JOURNAL begins its thirtieth volume, with the promise of a more talented and more energetic corps of collaborateurs than before, to whom it can point with pride as representative men up to the front rank in their respective departments of science.

The JOURNAL will continue to be, as heretofore, the organ of no party nor clique, but the independent exponent of truth, whatever be its source. Its pages are open to the free and candid expression of opinion from legitimate sources, and while it will in no case descend to personalities, it will boldly denounce shams and charlatanism, however respectably garbed.

It is intended to be the mouth-piece of Rational Medicine, and the organ of its followers throughout the medical world. H.

Private Retreat for Insane Females.

Andrew McFarland, M.D., so long and favorably known as Superintendent of the Illinois, and other public hospitals for the insane, proposes to supply a want which has long been felt by both practitioners and the public. We commend his circular to general attention.

OAK LAWN — A PRIVATE RETREAT FOR FEMALE PATIENTS AFFLICTED WITH MENTAL AND NERVOUS DISEASES.

This institution has been founded to meet the wants of the large and increasing class of patients for whom the overgrown State institutions of the country afford no proper provision, and whose cases demand quiet and retirement as absolutely essential to successful treatment. Its intent is to make the surroundings of its inmates as nearly as possible those of ordinary domestic life; to afford a *home*, to which the most sensitive may resort without thereby feeling that anything is forfeited of the respect and valuation of friends and associates,—a feeling which constitutes the chief element of dread in a commitment to the ordinary insane asylum.

The site fortunately obtained is admirably adapted for the purpose. It is situated in the suburbs of the city of Jacksonville, Ill., and about one mile nearly due south of the junction depots of the Toledo, Wabash and Western; Chicago and St. Louis; Peoria and Jacksonville; and Jacksonville N. W. and S. E. railroads. The basis of its extensive grounds was a natural forest of oaks, walnuts, elms, and other deciduous trees, now reduced, by many years of labor and study, and a large expenditure for foreign evergreens and exotic shrubbery, to a scene of quiet beauty to which the eye turns with pleasure in every direction.

Artificial walks and drives make the grounds an agreeable resort at all seasons of the year.

A gate-lodge, of neat architecture, ushers the visitor into the grounds, from whence the present mansion is reached by a winding avenue. It is proposed—as the patronage of the institution may warrant—to dot the grounds over with tastefully-designed cottage residences, where patients, either singly or in limited numbers, with nurses ever present, may enjoy any degree of elegance which their tastes or the desire of their friends may elect. By this arrangement, every luxury of the most refined home can be kept within the patient's reach,—a privilege quite impossible in the classifications of an ordinary hospital.

This design—the growth of twenty-five years of practical experience of the proprietor—is the result of a deeply-settled conviction that the present system of domiciliating the insane is essentially false in principle, and only adapted, if at all, to the maniacal and ungovernable; that perfection is only reached where the transition from the natural home is least felt; that insanity gathers fresh terrors in the mind of its timid subject from the many-storied, awe-inspiring edifice; the jostling crowd of those that reflect and gather new suffering from each other's faces; and the depressing effect of disagreeable associations from which there is no escape.

The design of Oak Lawn will especially commend itself to those partially developed cases of mental disease, where retirement and avoidance of the claims and restraints of society is the want most felt; and, also, to cases in their earliest stage, where prompt treatment may avoid the wide-spread exposures that commitment to the ordinary hospital involves.

The institution will also be a welcome resort to the large class suffering under complaints peculiar to the sex,—complaints in the great majority of instances due simply to impaired or irregularly distributed nerve-force, but which naturally develop insanity unless understood and relieved; also to those afflicted with hysteria, and its train of kindred disorders, so distressing to their subjects, and so little controllable by medical art under ordinary circumstances.

Persons whom ill health, or other causes, may have led to excessive indulgence in narcotics or stimulants, will receive special scientific treatment, by which the morbid appetite can be tempered or overcome.

Paralytic persons, and those whose mental disorder is the result of advanced age, will have apartments and conveniences especially adapted to their needs, and nurses of tried experience and faithfulness.

The proprietor begs respectfully to commend his design to the thoughtful consideration of all reflecting minds, as an advance step in the treatment of the most distressing of maladies. An enlightened

public sentiment, directed towards the problem of how best to provide for the insane—now so much discussed in this country and in Europe, will be the best promoter of its success.

Skin Grafting.

From the *Medical Record* we learn that Dr. M. Donnelly, of New York City, and a member of the class of 1868-69, of Rush Medical College, has written a very complete paper on "skin grafting," as studied by him in St. Vincent's Hospital; it is specially to be commended for its attention to details. He closes with a summary of principal points, as follows: "1. Rapidity of cure by grafting over other methods. 2. The elasticity and strength of the new skin over ordinary cicatrices. 3. Absence of contraction and deformity. 4. The simplicity of the operation, and its freedom from pain. 5. Necessities: Absolute rest, and healthy granulations. 6. Size of grafts: A quarter of an inch square; smaller almost useless; larger ones unnecessary. 7. The outside of the arm the best place to take the integument from. 8. In large ulcers, the graft to be placed one inch from the edges; the operation repeated as often as required. 9. The full depth of the *true skin* necessary, as growth of grafts is due to the derma, and not to the epidermis."

A Veteran.

The *New York Observer*, having completed its fiftieth year as the leader of the Religious Newspaper Press, has prepared for its thousands of subscribers a New Year's Gift in the shape of a JUBILEE YEAR-BOOK, embellished with several appropriate illustrations. The *Observer* was launched in 1823, and for fifty years has sailed in an undeviating course, without once changing its motto or striking its colors. Few papers can present such a successful history; and while there are plenty of good papers published, there are few that we can recommend as strongly as the *Observer* for all the purposes of a family newspaper. Large, comprehensive, and well filled, it cannot fail to pay those who take it four-fold for their outlay. All subscribers get the *Jubilee Year-Book, gratis.* $3 a year. Sidney E. Morse & Co., 37 Park Row, New York.

The Concours,

To fill the positions of instructors during the annual spring and summer session of Rush Medical College, has been conducted to

a highly successful termination. A goodly number of gentlemen presented themselves as applicants for the several positions, and although all of course could not expect to succeed, each, we may say, without an exception, proved himself amply competent and apt to teach.

In several of the departments, very considerable difficulty was experienced in deciding upon the relative merits of the candidates. Were it proper, we should be happy to mention personally, several whose trial lectures were particularly excellent, although not crowned by an appointment.

The Concours resulted in the following appointments, which are detailed from memory, and not in the order of their occurrence:

CHARLES T. PARKES, M.D., Anatomy.
F. L. WADSWORTH, M.D., Physiology.
P. S. HAYES, M.D., Chemico-Physics.
JOHN E. OWENS, M.D., Surgery.
O. B. ADAMS, M.D., Materia Medica and Therapeutics.
ISAAC N. DANFORTH, M.D., Pathology.
NORMAN BRIDGE, M.D., Principles and Practice of Medicine.
WALTER HAY, M.D., Diseases of the Mind and Nervous System.
JAMES N. HYDE, M.D., Syphilis.
A. REEVES JACKSON, M.D., Diseases of Women and Children.
PHILIP ADOLPHUS, M.D., Obstetrics.
L. W. CASE, M.D., Chemistry.

Appointment.

The SENIOR EDITOR takes especial pleasure in chronicling the fact, that his associate, Walter Hay, M.D., has been appointed Adjunct Professor of Principles and Practice of Medicine in Rush Medical College. For some time past, Dr. Hay has given the lectures on Diseases of the Mind and Nervous System. It is sufficient encomium to say, that the medical class heartily applaud the appointment.

Statistics of Vaccination.

Attention is directed to the tables on pp. 56, 57 of the JOURNAL which we are permitted to publish through the kindness of our friend, the able and philanthropic Prof. H. A. Johnson, M.D., member of the Executive Committee of the Board of Relief. Further observations hereafter.